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LECTURES
ON
DISTORTION OF THE SPINE NOT
CONNECTED WITH CARIES,

*Delivered in the Theatre of St. George's
Hospital,*

By SIR B. C. BRODIE, BART. F.R.S.

LECTURE II.—Dec. 2, 1846.

IN the last lecture I described several varieties of lateral curvature of the spine arising from different causes. That list, however, did not include the cases which are of most frequent occurrence. In fact, those which I have already mentioned form exceptions to the general rule. It is to the most common form of lateral curvature of the spine that I call your attention at present.

In private practice it will often happen—and, if you are in a large private practice, it will happen almost daily—that a mother will bring you her daughter, saying, “there is something wrong in my daughter’s shape;” and, accordingly as one part or another most attracts her attention, she will add, “see how this hip projects,” or “that shoulder,” or “how much higher one shoulder is than the other,” or “what a difference there is between the two sides of the neck.” In some instances, when perhaps a cousin, or a sister, or some other young lady of her acquaintance has been affected in the same manner, the derangement is noticed at a very early period; while in others it has crept on gradually and imperceptibly, and has been disregarded for some years, until, when you are at last consulted, there is so great a degree of distortion, and the patient’s age is so far advanced, that there is little likelihood of your being able to afford her any effectual relief.

If, in one of these cases, the dress be loosened behind, so that you may examine the figure more thoroughly, you find usually the following appearances. The spine being traced upwards from the pelvis has a slight inclination towards the left side. It then, in the lower part of the back, inclines to the right side, and then in the upper part of the back to the left side again, so as to form a convex line towards the right scapula. In the neck there is another but less distinct curvature, one effect of which is that the patient unconsciously turns her face to the left side. If then you examine the different parts connected with the spine, you find their position to be altered also. The right ilium is rendered more conspicuous than the left, in consequence of there being an

apparent depression or sinking in of the right loin. The ribs below the right scapula are unnaturally prominent; while those of the opposite side are flattened and depressed. The left scapula is less prominent than the right, and it approaches nearer to the spine: in bad cases, indeed, some of the spinous processes are actually covered by it. Corresponding changes are to be seen in front: the sternal extremity of one clavicle projects more than that of the other; and the greater elevation of the ribs on one side causes one breast to appear actually larger than the other.

In other cases the curvature of the spine has taken place in exactly the opposite direction. The appearances are the reverse of what I have just described, but otherwise similar. These changes exist in various degrees; from that which is so slight as to be scarcely perceptible, to that which occasions a hideous deformity.

As I observed in the last lecture, such displacement of the component parts of the trunk of the body cannot exist without an ultimate alteration of their figure. The bodies of the vertebrae become thinner on one side, that is, on the concave side of the curve, and thicker on that of the convexity. At a very early period, and even before the lateral curvature is very distinct posteriorly, the bodies of the vertebrae are actually twisted to one side. This curious circumstance was pointed out to me by M. Guérin, of Paris, who has some preparations in which the fact is very perceptible.

The ribs on one side are as it were squeezed together, while on the opposite side an opposite change is produced, the intervals between them being preternaturally increased. The preparations on the table illustrate these appearances. One of them shows another fact of great importance not only in pathology, but also with reference to practice. The curvature of the lower part of the spine being considerable, a mass of newly formed bone has been deposited on the sides of the vertebrae, acting as a spint, and, in fact, uniting them with each other by a complete bony anchylosis. This kind of bony deposit is met with very commonly in bad cases of spinal curvature, and it shews how hopeless the attempt must be to restore to patients thus afflicted their natural or healthy figure.

In the class of cases of which I am now speaking, you find none of those causes operating to produce the curvature which I described in the last lecture. There is no rickety softness of the bones: the cylindrical bones are of their proper figure; there is no distortion of the pelvis, and young women thus affected may marry without having any special reason to apprehend difficult parturition. Neither is the curvature

accounted for by any difference in the length of the two limbs, nor by any partial paralysis, nor by the effects produced by disease in the form of the chest.

The circumstances which, in a greater or less degree, are common to all those cases, and which seem to explain sufficiently the origin of this variety of spinal curvature, are a generally weak state of the muscular system, and a relaxed state of the ligaments. The former is indicated in a variety of ways. The effects of the latter are exhibited in a loose condition of the joints. There is a bending in of the ankles, the feet being at the same time inclined outwards, in consequence of the ligaments of the ankles not being capable of supporting the weight of the body. The same thing may be observed in the fingers, which the patient can sometimes bend backwards, so that the back of the finger shall almost come in contact with the back of the hand.

I have told you that this kind of curvature is met with very frequently in private practice, and much more rarely in hospitals and dispensaries. It is one of the penalties of a high degree of civilization—a disease almost peculiar to those who have assumed to themselves the title of “the better classes of society”—though “the more affluent classes” seems to be the more appropriate appellation.

It is not difficult to conceive that the advantages which young women of the affluent classes possess should be counterbalanced by certain physical disadvantages. They are in a great degree confined to close and heated rooms. In large towns the habits of society prevent them from taking more than a very moderate quantity of exercise in the open air; and even in the country (with a few exceptions) they enjoy much less freedom in this respect than their poorer neighbours. Thus, while their bodily powers are too little exercised, their minds are often exercised too much. Even in private education, under a governess, the hours which they spend in study of one kind or another, for the most part exceed those during which their brothers are similarly occupied at school; and at some schools, especially at what are called finishing schools, the business of mental education is carried to such an extent that the girls have scarcely any leisure for recreation. If they go out of doors at all, it is in too formal and decorous a manner to answer any really useful purpose. Let us not blame the ladies who preside over those establishments as being the authors of this erroneous system. To them it is as irksome as it is to their pupils. The fault lies altogether with the parents, who send their daughters to school, expecting that within a given period of time they should obtain a certain amount of accomplish-

ments, such as cannot be crammed into them without sacrificing what is really more important to this one object. It might, indeed, be further urged that the injury thus inflicted on them is not merely physical: that the mind suffers as well as the body; that mere learning without having leisure for reflection, tends not to strengthen but to weaken the intellect. But this is none of our business. It is only to the physical injury that I refer at present.

It is, as you well know, a law of the animal economy that organs which are not exercised become reduced in size, and that their functions are impaired. If one eye were covered by a bandage for some years, it would, I doubt not, be rendered almost or wholly useless. Even the teeth, slightly organised as they are, are spoiled for want of use. There are no parts in which the operation of this law is so conspicuous as it is in the muscles; and the necessary result of the mode of life which I have just described, is a debilitated state of the whole muscular system. The ligaments of the joints are affected in the same manner, though the effect produced is not so universally perceptible in them as it is in the muscles.

But the mischief does not end here. The free action of the muscles and cheerful occupation of the mind are necessary to the healthy performance of all the more important animal functions. Where these are wanting the digestion is ill performed; the liver is torpid; the action of the bowels is irregular; the menstruation is deficient, and the patient becomes liable to suffer from hysteria in all the various and mysterious forms which that disease assumes. Frequently the action of the heart is enfeebled; and in consequence of the weak circulation in the extremities, the hands and feet are unnaturally cold, and liable to chilblains. This state of the general health acting on the muscular system aggravates the original evil, rendering the muscles still weaker, and the patient less disposed to exercise them.

To say that the above is an exact representation of the condition of the majority of young women belonging to the affluent classes would be an absurd exaggeration, but with respect to no small proportion of them it would be no exaggeration at all; and the operation of these causes, even when they exist in a slight degree, and do not very sensibly affect the general health, will produce a tendency to distortion of the spine sufficient to justify a mother's anxiety on the subject. Let me take this opportunity of observing, that this state of things is not peculiar to this country of Great Britain. In France, in Germany, in the United States of America, wherever a high degree of civilization exists, these and not a few other disadvantages go *pari passu* with it.

Now observe in what manner muscular weakness must affect the figure of the spine. The column of the 24 *vertebræ* resting on the *os sacrum* has to support the weight of the head and shoulders. As a weight placed on the top of it would bend a cane to one side, so does the weight of the head and shoulders produce the same effect on the spine. The strong muscles of the spine are the counteracting force maintaining the spine in the erect position. If the muscles are deficient in power, the weight of the head and shoulders being unaltered, they are not equal to the duties which they are required to perform, and a double curvature of the spine is the consequence; the one the immediate result of muscular debility, and the other of the effort made by the patient to keep the centre of gravity in its proper place.

The same cause operates in the production of spinal curvature in another manner. The patient, when required to stand for any considerable length of time, finds that she does this more easily by throwing the principal weight on one foot, and balancing herself with the other, than by supporting herself equally on both feet, with the pelvis horizontal, and the spine erect; and gradually she acquires the habit of standing in the first of these two positions. I need scarcely explain to you that the effect of this must be the same as that of one leg or thigh being shorter than the other, and that a further deviation of the spine from its natural figure must be the consequence. Leaning to one side, when in the sitting posture, must have the same effect, and this also is a position which delicate girls are much inclined to assume. In illustration of this last remark, I may observe that, every now and then, I see even a strong and healthy schoolboy, who has made himself not only perceptibly but disagreeably, awry, by a merely wanton habit of leaning to the right side while engaged in writing his lessons.

The prejudices of modern society have made young ladies the victims of an absurd practice, of which we cannot doubt that it contributes in a very great degree to the prevalence of spinal curvature, and which, on account of the evils which it produces, not only in this but in other ways, it is the duty of every medical practitioner, and of every physiologist, to expose.

There are tribes of Indians who flatten their infants' heads by compressing them between two pieces of board. I do not know whether this compression ever does any actual injury to the brain, but it is well known that it alters the shape of the head. The Indians alluded to believe the alteration to be an improvement on the natural figure; but we, and I suppose that all other nations under the sun, with the exception of the

aforsaid Indians, regard it as a great deformity.

In China, a young lady, at a very early period after her birth, is placed in the hands of an artist who squeezes the great toe into the side of the foot, fixes it in this position by strong bandages, and then applies other bandages to the whole foot, pressing the different parts together, thus wholly altering its shape, and preventing its growth. The result is, that when arrived at a maturer age, the girl has such a foot as you have all seen in drawings and models—as unlike the human foot as a foot can be, and almost useless for the purposes for which a foot is designed. This small distorted and useless member is esteemed to be a beauty, and held in respect as distinguishing the individual who has it as belonging to a superior caste in society.

We may well say, "how monstrous, how absurd a custom!" But the Chinese may with perfect justice retort our censure, and say, "you have yourselves a custom not less absurd than this."

Here, in civilized Europe, and among ourselves, who claim to be at least as far advanced in civilization as any other nation in the world, it is thought that the beautiful human figure, that which we admire in the *Venus de Medicis* or the *Venus of Canova*, is not beautiful enough, and that it requires to be improved by art. Generally, when a young lady is only a few years old, she is made to wear stays with pieces of whalebone in them; and as she grows older these are increased in number, and a long plate of steel, called a busk, is superadded to them in front. These pieces of whalebone and this plate of steel act as splints to the pelvis and trunk, in a great degree supporting the figure independently of muscular action; and of this the necessary result is, that the muscles become weak and reduced in size. Then it is by some thought necessary that the stays should be laced as tight as possible, especially at the lower part, so as to make the waist unnaturally slender. This interferes with the free action of the muscles of respiration; not only of those which produce the respiratory movements of the ribs, but of the diaphragm also. It compresses the thorax, and distorts the ribs. That any one should regard the figure thus artificially distorted as more beautiful than the female figure is in its natural state, is strange enough:—but that is not our concern at present. There can be no doubt that in all cases, by weakening the muscles of the spine, and, in some cases, indirectly by interfering with the freedom of respiration, and thus depressing the physical powers of the whole system, the effect of wearing stays, such as I have described, must be to produce or aggravate the tendency to spinal

curvature. You should all of you, as you advance in reputation, use your influence in society to get rid of this absurd custom, and especially to prevent children, who have never yet wore stays, from undergoing this infliction. In the case of those young ladies who have for some time wore them, it may not be safe all at once to take away the whole support; but the number of pieces of whalebone may be gradually reduced, until at last they are removed altogether.

A knowledge of the causes of disease is the first step towards its cure, and the observations which I have just offered will render what I have to say, as to the treatment of this, the most frequent variety of spinal curvature, sufficiently intelligible.

In every case there are some preliminary questions. Is it one in which there is a reasonable chance of our doing the patient service? and, if there be, how much time may yet elapse before the period of her growth is concluded, and her figure made for life, so that no further improvement is to be expected? The plan to be recommended must depend in a great degree on the answer which may be given to these inquiries. If the patient be nineteen or twenty years of age, any treatment that is had recourse to must terminate in disappointment. If she be only 13 or 14 years of age, or still younger than this, she has sufficient time before her to justify you, even if there be a considerable curvature, in employing the simplest means in the first instance, reserving other methods of treatment until those first employed, having had a reasonable trial, have been found to be insufficient. At a later age, such as that of sixteen or seventeen years, you are to bear in mind that there is little time to spare, and the treatment, which, though most inconvenient, is the most certain in its effects, must be resorted to in the first instance.

I shall first consider the plan to be pursued in the slighter cases of the disease, premising, however, that this includes at least nineteen-twentieths of the cases about which you will be consulted.

The objects to be kept in view, are—*first*, the improvement of the general health, and the increase of the muscular power generally. *Secondly*, the increase especially of the power of the muscles which are connected with the spine, and whose office it is to support the weight of the head and shoulders. *Thirdly*, the taking off the weight of the head and shoulders, as far as this can be accomplished by simple means, and without interfering with what is required for the two first-mentioned purposes. *Fourthly*, the avoiding various habits, which, although not in themselves an adequate cause of spinal curvature, may tend

to aggravate it when it has been produced in other ways.

As to the first of these objects, it is plain that no general rule can be laid down, except that it is important that the patient should, if possible, live in the country rather than in a crowded city; that she should be as much as possible in the open air, taking whatever amount of exercise she can bear without being exceedingly fatigued; and that she should not devote more than a few hours daily to intellectual studies, and to the acquirement of accomplishments. Some may require an occasional visit to the seaside; others may be benefited by residing there constantly. A cold shower-bath is very generally useful. Others require, or if they do not absolutely require, may take with advantage, preparations of iron, or quinine, or some other tonics.

With a view to strengthen in particular the muscles of the back, particular exercises may be had recourse to: and many kinds of exercise have been contrived for this purpose. All climbing exercises are useful in this respect, bringing all the muscles of the spine into vigorous action. They are at the same time beneficial in another way, the weight of the lower limbs tending to elongate and strengthen the column of the vertebræ. A rope, with worsted wound round it, that it may not hurt the hands, may be suspended from the ceiling, and the patient will soon become a dexterous climber. There are often two or three girls in a family for whom this exercise will be beneficial, and that which would be a tedious and irksome task to a girl alone, will become an amusement when pursued in the company of others of her own age. The handswing affords a very useful exercise in these cases also. This is a triangle composed of a double rope with a cross-bar of wood forming the base of the triangle, suspended from the ceiling at such a height that the individual who uses it can just reach the cross-bar with her hands as she stands on tip-toe. She is to hold the bar with both her hands, and swing with her feet raised a little from the ground. The effect of this exercise also is to bring the muscles of the spine into action, at the same time that the weight of the lower limbs operates in the same manner as when she climbs a rope. At first probably she will not be able to continue to use the handswing for more than a few seconds at a time, but as she grows stronger she will swing for a much longer period. Another mode of exercising, and thus strengthening the muscles of the back, is the following:—Let one pulley be fixed to the ceiling, and another to the floor. Let a small rope pass over the upper pulley, and under the lower pulley, a box containing a light weight being fastened to

that end of the rope which is nearest to the upper pulley, and a handle to that which is nearest to the lower pulley. The patient standing with her face towards the pulleys is to raise and lower the weight, holding the handle in both her hands. The effort used in raising the weight necessarily calls the muscles of the back into action, and as the patient becomes accustomed to it, the required effort may be increased by putting an additional weight into the box. This exercise may be varied by taking off the handle and fixing the rope to a bandage fastened round the head, so that the weight is raised by the action of the muscles of the neck and back without the aid of the arms. The latter method of using the pulleys, however, is wearisome to the patient, and practically much less useful than the other.

I offer these as examples of the kind of exercise which may be supposed to be especially adapted to cases in which there is deficiency of power in the muscles of the spine. Understanding what is required, you may easily invent others equally efficacious. Those which I have described have the advantage of simplicity, and of being easily adopted in a private house. One or the other may be had recourse to according to circumstances: and it is better that the patient should practise her exercises at different periods of the day, rather than be exhausted by practising them for a very long time at any one period. Anything like over-exertion should be carefully avoided.

Friction and shampooing act upon the muscles to a certain extent in the same manner as exercise, and in the case of delicate girls, who in the first instance are not able to take exercise in any efficient manner, may be substituted for it. It will, however, be of little service unless it be employed for one or two hours daily, and it should be applied not only to the muscles of the back but to those of the chest and extremities.

The third object to which our treatment is to be directed, in ordinary cases of spinal curvature, (that is, in those which are not of a very inveterate character,) is very easily obtained. When not engaged in exercise the patient should spend either a portion or the whole of her time in the recumbent posture. If the curvature be very trifling it will probably be sufficient if she always lies down for half an hour after taking exercise; if it be greater, it may not be too much to require that she should never stand for more than a few minutes at a time, and never sit except at her meals.

In order that this part of the treatment should be successfully carried out, it is important that it should be made as little irksome as possible to the patient. I sometimes see young ladies made to lie on their backs on the floor, with nothing to sup-

port the head, remaining there motionless for hours together. Such a system cannot be long pursued, for it makes those who are subjected to it miserable. Neither is it prudent. When Jacob could get nothing better he was contented to rest his head on a pillow of stone; and for those especially whose cheeks are naturally of a high colour, indicative of a considerable supply of blood to the head, to lie long with the head unsupported is actually dangerous. In these cases nothing more is really necessary than that the patient should be recumbent, and that she should vary her position, so that she may not lie more on one side than on the other. There should always be some sort of cushion under the head, so as to keep it raised above the level of the body, and there is no objection to the shoulders being in some degree elevated also. The apparatus known by the name of "the inclined plane" is useful to a certain extent. If, however, it be used during any considerable part of the day, it is not only irksome, but produces a feeling of exhaustion, sufficient to interfere with the necessary exercises. I refer, of course, to the inclined plane, properly constructed; that is, a smooth board, raised at a small angle from the ground, with a space or hollow made to receive the back of the head, and a leather strap to support the chin.

I sometimes see an inclined plane in which there is nothing to receive the head or support the chin, at the same time that there is a foot-board to support the feet. A little consideration will satisfy you that the author of this last invention was entirely ignorant of the principle on which the use of the inclined plane has been recommended. The effect of the feet being made to rest on the foot-board is, that, instead of the weight of the lower limbs tending to straighten and elongate the spine, the weight of the head and shoulders tends to produce exactly the opposite effect. In fact, there is the same objection to it as to the sitting or standing posture, and lying on a couch is much to be preferred. The prone couch, the invention of a gentleman who is now no more, and who (under the patronage of a long list of ladies), offered it as a remedy not only for all diseases of the spine but for a multitude of other diseases, (if my recollection be accurate, pulmonary consumption was one of them), may be used with advantage with a view to an occasional change of posture. The lying on it constantly, however, or even during any large portion of the day, is by no means to be recommended. The pressure being thrown altogether on the forepart of the body cannot fail to interfere with the due performance of the functions of the abdominal viscera, and still more with the respiratory movements, and I have myself

witnessed one very ill effect of the long continued use of it—namely, a flattening of the fore part of the chest, causing a greater disfigurement than that which it was pretended that the couch would remedy.

I have observed that there are certain employments and habits which have the tendency to increase spinal curvature, and which therefore should be avoided. Of these none is more mischievous than the practice of standing on one foot. But this the patient does unconsciously, and the only way to prevent it is for her to stand as little as possible. Playing on the harp, drawing, and even much writing, are on this account objectionable. A young lady who is threatened with spinal curvature, if she rides on horseback, should sit alternately on the right and left side, being provided with a saddle which admits of this change of posture. In like manner, if she plays with a battledore, or trundles a hoop, she should use sometimes one hand and sometimes the other. Even when in bed she should be careful to vary her position, and should endeavour to accustom herself to lie alternately on the right and left side. As I have already explained, it is important that her head should be raised above the level of the rest of the body; but a single bolster or pillow is sufficient, and a very high pillow, which cannot be used without giving a considerable curve to the spine, should be avoided.

ON THE USE OF ALUM IN CASES OF HABITUAL CONSTIPATION. BY DR. JOHN ALDRIDGE.

THE author observes, that the disease described by Dr. Marshall Hall under the name of *mimosia acutus* most frequently occurs between the ages of 30 and 50, although occasionally it happens much earlier. It may attack every variety of temperament, but is most liable to present itself in persons of sedentary habits. Women are more subject to it than men. The individuals who labour under it, are usually of a dusky complexion, or, more exactly speaking, the skin always presents a dirty appearance. The face is frequently coated with a greasy-looking perspiration. The breath is foul, the gums spongy, and apt to bleed; the tongue broad, flat, flabby, indented at the margins by the presence of the teeth, and coated with muco-purulent exudation(?) The bowels are usually constipated; yet the patient may tell you he has daily alvine evacuations, and yet the colon may be in a state of distension from fecal accumulation. The abdomen is swollen, and feels unequal to the hand, the course of the ascending and transverse colon being more resisting than the other parts to pressure; in these situations there is also sometimes tenderness, and

even pain. Besides the foregoing symptoms, the patient almost constantly complains of headache; says he is very nervous, subject to tremors and sudden flushings of heat upon excitement, as well as palpitation of the heart, and epigastric throbbings.

Dr. Marshall Hall recommends active purgatives in the treatment of this disease. For a considerable time the author followed his advice, but found cause to be dissatisfied with the results. The patients, for a short period, expressed themselves relieved; but day after day the necessity for cathartics became more urgent, and the relief obtained became gradually less marked. He therefore commenced to inquire whether there was any other remedy likely to be more persistent in its benefit, and *alum* presented itself to his mind as a medicine fitted for controlling the pathological condition upon which he believed the disease to depend. Looking on *mimosia acutus* as a disease essentially consisting in a semi-paralytic state of the ganglionic nervous system, its analogy to colica pictonum seemed very evident; and, in connection with this analogy, the medicine that was found useful in the one disease would naturally present itself as being likely to prove beneficial in the other. Accordingly, he was led to administer alum in comparatively large doses, in cases of habitual costiveness accompanied by the symptoms described above, and found its use to be followed by advantages which could not be hoped for from the use of ordinary purgatives. He considers moderate doses of this medicine to be very useful, not only in restoring the healthy tone of the large intestines, enabling them to expel their contents, and rendering the continual use of purgatives unnecessary, but also in affording an universal firmness and strength to the system; it diminishes anormal and debilitating secretions, while it increases the renal. When alum is given in doses of a ℥j. or 3ss. without being conjoined with any purgative, in *mimosia acutus*, it produces large and very solid evacuations. For private practice the following formulæ may be employed:—

℞ Infusi Rosarum, ℥viij.; Sulphatis Magnesie, ℥j.; Aluminis, ʒij. M. Sumat cochlearia duo ampla cum aque cyathis viniis duobus, primo mane, quotidie.

℞ Infusi Rosarum, ℥viiss.; Aluminis, ʒij.; Tr. Cardam. Comp. ʒss. M. St. cochlearia ampla duo, ter die.

Dublin Hospital Gazette.

. The modus operandi of the alum in the above cases is probably precisely the same as that of the large doses of sulphate of zinc which were recommended a few years since in similar instances, a plan of treatment which we have ourselves employed with advantage.

Original Communications.

STATISTICAL REMARKS
UPON SOME OF THE PRINCIPAL
DISEASES AMONG EUROPEAN
TROOPS IN THE BOMBAY
AND MADRAS PRESIDENCIES.

By R. H. A. HUNTER, Esq.
Surgeon, 57th Regiment.

THE principal diseases among European troops in the Madras and Bombay Presidencies, and indeed throughout India, are dysentery, cholera, fever, and liver complaints. This, it is true, has been repeated again and again by medical writers, but I am not aware that any have attempted to point out their relative frequency and mortality, nor do I think it possible to obtain anything like correct information from official returns, without a practical acquaintance, not only with the diseases themselves, but also with the way or system in which these returns are made up, and that not in one regiment, locality, or even presidency. For instance, by the official returns it would appear that hepatitis is frequent, the proportionate mortality low, not amounting to more, in the Madras presidency at least, than 5 per cent. of the number treated: whereas the reverse is the fact: hepatitis is rare, the mortality extremely high. Again, if we refer to the invaliding lists, or even to the hepatic regions of invalids, covered with leech-marks, we might be led to infer that this also is one of the chief invaliding causes; whereas it is the dyspeptic who are invalided; the true hepatic almost invariably die, either in the country, or before they reach the Cape of Good Hope. No doubt, pain in the right side, or in the right side and shoulder, is a frequent complaint, particularly in Madras, and if treated as hepatitis, which it yet not unfrequently is, with inordinate bleeding and leeching, purgatives and mercury will seldom fail to undermine the constitution, and render a change of climate absolutely necessary, if it does not lead even to worse consequences. But we might go farther, and shew that other diseases often, such as tuber-

culous enteritis, and even consumption, are included in the list, as we have repeatedly proved by post-mortem examination both in the country, and with invalids on the passage home. Again, if we compare one presidency with another, or one regiment with another, we shall find a great discrepancy in the ratio of admissions, and if we calculate from that, still more in the ratio of mortality. In one regiment we may find the ratio of deaths to admissions under hepatitis as 1 to 7; in another perhaps not 1 in 50; whilst, at the same time, according to strength, a remarkable uniformity prevails. For instance, the 2d, or Queen's Royal, at Deesa, between the years 1840 and 1844, by the returns, lost 1 in 7; the 57th Regiment in Fort George, Madras, in 1832 and 1833, 1 in 37; and in 1841, 1842, and 1843, 1 in 28. Whereas, according to strength, the ratio runs thus: Queen's Royal at Deesa, 3·7 per 1000 of strength; 57th Regiment at Madras, in the first period, 3·3, in the second 3·6.

Pneumonia, also, we shall find holding a conspicuous place among the admissions in one regiment, whilst in another, at the same station, perhaps, there is not one—as prevalent, by one set of returns, at Madras, in lat. 13°, as at Deesa, in lat. 24°, by another; and at Cannanore, on the Western, or Malabar Coast, as at Belgaum, or Bangalore, 2000 or 3000 feet above the level of the sea.

To resume: we have said the principal diseases among European troops in India, that is, of such as influence the mortality, are dysentery, cholera, fever, and liver complaint, and in the order here given. Nevertheless in our remarks it will be more convenient to place cholera last, as the other three so run into each other as to be with difficulty separated.

Fevers.—These it is usual to divide into the intermitting, remitting, and continued; but as the first occurs generally, among Europeans, as a sequel to the remitting at the commencement of the cold season, and the last, notwithstanding the free use often made of the term "*febris continuens communis*," does not exist, it will be better to deviate from this order, and contemplating them rather according to their complications, and the season of the year at which they respectively

prevail, divide them into the cerebral or vernal, gastro-enteric or autumnal, and hibernial or pulmonary. Not that we consider each of these as confined to its own particular season; on the contrary, we have seen the cerebral prove fatal in November, the pulmonary in April or May.

Cerebral.—These prevail chiefly at the close of the hot season, that is, in the end of May and beginning of June, when the winds first come round to the south-west, and particularly where the temperature is steadily above 100°, as in Cutch Gundava, and in Scinde, Deesa, Kamptee; occasionally at Poona, and other stations. They are often very rapid in their course, terminating, within twelve or twenty-four hours, in coma or apoplexy, in which intense form, indeed, they are often returned as such. They partake more of the nature of "synocha" than either of the other varieties, and are more amenable also to treatment: at least, after the first dangers are surmounted, they seldom leave those untoward sequels and tendency to relapse so common in the autumnal remittents. Occasionally, however, we do meet with proofs of cerebral disorganization in palsies; amentia, as it is called, and even apoplexy, after convalescence has apparently been established. They are also very perfect in their remissions, and, in their milder forms, as at Deesa, in ordinary years, and at Poona, partake more of the character of intermittents, though it would be difficult, perhaps, to reduce them to their respective types.

Gastro-enteric and hepatic.—These, though constituting the grand autumnal epidemics, are by no means peculiar to that season. On the contrary, they occur at all times, and even complicate more or less the other varieties. In the autumn, however, or close of the rainy season, they are at their acme, and then very destructive, not only by their immediate effects, but also by their sequels, dothin-enteritis and dysentery, the last frequently conjoined with hepatic abscess. Indeed, so prone are they to terminate in these diseases at the setting in of the cold season, that for months after an epidemic of this kind the hospitals are full of them. But what is perhaps equally worthy of note, is the prevalence, in an epidemic form, of dothin-enteritis and dysentery,

with abscess of the liver, at stations or seasons when the malaria would seem to be insufficient to excite fever, as at Secunderabad, in the Madras Presidency, where, for the last twenty years, the annual average mortality from this cause alone has amounted to no less than 36 to 40 per 1000 of strength.

Pulmonic.—Of these little was known, perhaps, till the army, having crossed the Indus, penetrated into the high mountainous districts of Afghanistan. At the termination of the first campaign, however, on the descent of the troops through the different passes, these fevers for a short time assumed a most malignant character, and, in a milder form, followed the several corps for months after. Not only did the 2d, or Queen's Royal, and 17th Regiments, suffer much from the period of their emergence from the Gundava Pass, in the beginning of December 1839, (see Transactions of the Bombay Medical and Physical Society, Vol. III.), but also, as we subsequently learnt, the Bengal Column on their descent into Tezeen. But the most destructive epidemic of this kind which has come to our knowledge was that some years after in H. M. 40th, at Kwettah, the same year that regiment suffered so much from the gastro-enteric and dysentery; for in the annual return we find no less than 50 per 1000 of strength from pneumonia alone; no doubt this same pleuro-pneumonic fever, for such a mortality could scarcely be conceived from idiopathic pneumonia: this, too, is the more probable, as, on other occasions, the same disease was, to our knowledge, returned as pneumonia.

Within the Indus, the pulmonary complication seldom exceeds that of a bronchitis, except at the more northern stations, as at Deesa near the borders of Scinde, where pneumonia of a lower lobe, in the cold season, is by no means uncommon.

Comparative mortality.—We now come to the comparative mortality from fever, generally and specially; but here we would draw a broad line between that in Scinde, or even Bengal, and the Presidencies we are more immediately considering. Within these, at stations still occupied by European troops, the ratio for a tropical climate is extremely low, not amounting to more than 12 per 1000 of strength even at the worst stations, or than 5 or 6 upon the

average of the whole. Here, however, it must be remembered the province of Ghuzerat, in the Bombay presidency, is excluded, that having been long abandoned by European troops from its extreme unhealthiness, though, from the station of Deesa being on its northern frontier, they have generally to pass and repass through it, and that not without considerable increase to the mortality, and particularly if before the middle or end of November. Indeed, similar remarks would apply to other localities, both in the Bombay and Madras presidencies, some of the jungly districts of which are scarcely less deadly than those of Ceylon.

But, to come more immediately to the ratio of admissions and deaths, a good rule, we think, would be to deduct 150 to 200 from the former, for anomalous cases, called in the returns "Fever," only for want of a more convenient term, and to consider the remainder as the true index. This would give from 400 to 500 per 1000 of strength, as the true ratio at the worst stations, and 1 death to about every 30 or 40 treated. It is worthy of remark, however, that wherever fever is less frequent, there also it is more fatal; or rather, perhaps, we ought to say, like cholera, dysentery, &c. fever is more fatal, in proportion to the number treated, where it occurs sporadically, than where it occurs epidemically, though from the great preponderance of the anomalous cases alluded to above in low numbers, this does not appear in the returns. Upon the whole we might reckon 8 or 10 deaths for every 1000 of strength, a high ratio, even at the worst stations, on the average, for the gastro-enteric and hepatic, 3 or 4 for the cerebral, and 2 or 3 for the pulmonic.

Morbid anatomy.—With regard to this we do not profess to be minute morbid anatomists; nevertheless, we have seldom permitted an opportunity altogether to escape, whether in quarters or on the line of march, however pressed for time, except in cases of cholera, and the following we have almost invariably found in these fevers:—In the gastro-enteric, more or less redness, dotted or otherwise, in the stomach: once a large circular ulcer, in a patient who had lain in a half comatose state for several days: in-

flammatory appearances well marked, with or without ulceration, according to the period of the disease, particularly in the cæcal valve and cæcal extremity of the colon and ilium; in the rapid cerebral congestion of the vessels of the brain, though to me nothing very satisfactory; and in the pulmonic, in Scinde at least, empyema, and more or less hepatization of one or more lobes of the lungs, purulent infiltration, &c.; twice within the Bombay Presidency, gangrene; and in the bronchitic cases, non-collapse, serous infiltration, redness in the bronchial linings, &c.

Hepatitis.—Perhaps no term in nosology was ever more vaguely used than this in India, and particularly in Madras. Pain in the right side, or in the right side and shoulder, without any other indication of disease whatever, is constantly returned as hepatitis. Pyrexia, and even the other local symptoms of inflammation, seem to be altogether forgotten. True, redness cannot be seen below the surface, nor the heat of an organ deeply seated, as the liver, easily appreciated; nevertheless, a difference of temperature may be perceived between the sides; and, with regard to the swelling, there can scarcely be a doubt after percussion and auscultation. As for pain in the side, according to our experience this is seldom complained of till towards the fatal termination, or, indeed, any other symptom to direct us particularly to the region of the liver. The far most common are irregular fever, with gastric symptoms, vomiting, tenesmus, and dysentery.

Hepatitis we would contemplate as consisting essentially of inflammation, or, at least, of that state of the organ tending to the formation of abscess; and in this view we need scarcely say it is one of the most fatal of diseases. It is not that this is only a more advanced stage of the disease, commonly called hepatitis, for, after repeated careful observation of the future history of such patients, which a twelve years' continual service in one regiment enabled me to make, together with the post-mortem examinations, where they have died of other diseases, I am fully persuaded (indeed it became proverbial latterly in the regiment) that those are the least likely eventually to suffer from hepatitis who

have been habitual complainers of their side. Indeed, I had afterwards an opportunity of making a post-mortem examination of one whom I had treated frequently for this so-called hepatitis over a period of seven or eight years, and who had been led to believe, previously to my knowledge of him, that he had burst no less than two or three abscesses at intervals of years, yet the liver was as moderate in size and healthy in appearance as any I had ever seen even in England, and without a trace of cicatrix or other previous disease. He died of acute colitis or dysentery, but the colon had evidently been the seat of continued irritation, if not also of sub-acute inflammation, for under the scissors it emitted quite a cartilaginous crisp. We have subsequently been made aware that Mr. Rogers, H. C. S., formerly editor of the *Madras Quarterly Journal of Medical Science*, has endeavoured to show that these pains in the side are usually caused by a chronic or subacute colitis; and though, no doubt, he is right to a certain extent, and particularly at Madras, where subacute colitis or enteritis is very prevalent, yet we think we have more frequently met with them symptomatic merely of "irritable gastric or colonic dyspepsia," caused by flatulent distension, evinced indeed by the clear tympanitic resonance usually found in such cases under the lower false ribs and in the right iliac region.

To return: hepatitis is more frequent, we think, some years, or series of years, than in others. At least, in the 2d, or Queen's Royal, from 1831 to 1836 (3 or 4 years at Bombay and Colaba, and between 2 and 3 at Poona), we had scarcely an instance of it; insomuch that we had begun to suspect that former accounts had been very much exaggerated; yet in the end of the latter year and beginning of 1837, it might almost be said to have been epidemic; and not only in that regiment, then stationed at Belgaum, but also in the 6th at Colaba, Bombay: and 57th at Cannanore. It is more frequent also at the higher stations along the line of the Ghauts, and where epidemic fevers prevail, than in the low countries or coasts.

Mortality.—With regard to the mortality from hepatitis, relatively or col-

lectively, it is not easy to speak with precision. Upon the coast, however, where the disease is less frequent, and occurs more generally in a primary form, 16 admissions and 4 or 5 deaths per 1000 of strength, may be reckoned about the average; but in the interior, in addition, particularly at the higher stations along the line of the Ghauts, and in malarious districts, where fevers of the remitting and intermitting types prevail, many of these, as well as about one-third of the fatal dysenteric cases, exhibit this complication.

Dysentery.—Of this I believe there are at least two species common in India, different both in their nature and causes. The one, which is usually met with on the coast, and in the rainy season, is a pure colitis, or inflammation of the mucous membrane of the colon, attended from the first with constant tormina and tenesmus, with frequent watery, muddy, or bloody motions; soon followed by pyrexia, and terminating fatally generally in from seven to fourteen days, or gliding into the chronic form, so well characterised by the sunken features, and stretched, pasted-like appearance of the skin over the cheek-bones. The other is more properly a dothin-enteritis, of malarian origin, occurring epidemically as at Secunderabad, or sporadically as at most other inland stations, but everywhere after epidemic fevers, at the setting in of the cold season, or on a change of climate from low situations to the dry cold air of the mountains; and, like most other complications of fever, proceeds often a great length in a latent form, the subject of it not presenting himself at hospital till a few days of the fatal termination, when probably the colon will be found enormously hypertrophied and ulcerated: the ulcers in large circular patches, or minute and thickly set together, not unlike small honeycomb.

Comparative mortality.—Of the comparative mortality of these two species of dysentery, we should say the last is out of all proportion according to strength, but the first according to the number treated. At Bombay, during the month of July particularly, the colitis, if well marked, is almost certainly fatal. Of such we should reckon 3 in 5 a small proportion, whereas in the other species it seldom exceeds 1 in 5 at any time,—often not 1 in 20.

True, or idiopathic colitis, however, is comparatively rare, as may be inferred from the proportionate mortality according to strength. It is, nevertheless, very regular in this respect, inasmuch that I have often thought a table might be so constructed as to indicate the ratio, at any given station, merely by dividing the annual average of rain by 8; only we have no means, in the interior particularly, of separating the other or malarian species. For instance, the annual average of rain at Bombay is say 70 inches; this divided by 8, gives 8·6 comparative mortality. At Cannanore, 120 inches, 15; Moulinein, 170 inches, 21·2. These will be found very nearly correct.

By the malarian species, the mortality, according to strength, is extremely uncertain; in general, however, we might calculate upon a little more than that from fever at the same station: for instance, at Secunderabad, on the average of 14 years to 1840, the proportions were—fever, 11·8 per 1000 of strength; hepatic, 9·4; dysenteric, 36·9. These last generally more or less conjoined. H. M. 17th regiment during and after the epidemic fever of 1841, at Colaba, Bombay, fever, 67·9; hepatic, 15·6; dysenteric, 66·9. H. M. 40th regiment at Kwetah, in 1841, fever, 70·5; hepatic, 7·2; dysenteric, 96·4. H. M. 41st, same year at Moostoong, fever, 16·1; hepatic, 22·3; dysenteric, 27·4. No stress need be laid upon the great proportion of hepatic in this last, as we have already shown hepatitis and dysentery, under such circumstances, are usually more or less conjoined, so that it depends rather upon the views of the medical officer than any difference in the nature of the disease.

Cholera.—In a report to the Deputy Inspector-General upon this disease, as it occurred in H. M. 2d, or Queen's Royal Regiment, at Bombay, in 1833, (afterwards published in the Indian Journal of Medical Science, May 1835) we adverted to some facts, as tending to evince an infectious property in cholera, or, at least, an extreme proneness to spread among persons closely associated together. At that time, infection, or contagion, was deemed somewhat apocryphal, though now it is generally acted upon, more or less, within the Bombay Command at least. Of late years, however, or since about

1839, when large bodies of troops began to be moved about, in consequence of the late wars, cholera has been much more malignant than formerly, and more frequently followed by that low congestive fever noticed in its course throughout Europe. From 1830 to 1838, a greater mortality among the number treated than 1 in 3, even of decided cases, used scarcely to be reckoned upon when epidemic, or 1 in 2 of sporadic causes, but now two-thirds of the former, and nearly all of the latter, would scarcely be deemed inordinate: at least, something very like this we witnessed at Deesa in 1842,—a year in which it raged with great violence over a great portion of the Bombay Presidency. In former years, also, we looked upon officers, in European regiments at least, as altogether exempt, but now no exceptions are acknowledged, and medical officers in particular, along with other attendants upon the sick, are cut off in great proportions.

According to strength, the ratio has always been very irregular. In the 2d, or Queen's Royal Regiment, between the years 1831 and 1844, exclusive of those on field service, it was 5·7 per 1000 of strength annually out of an aggregate of 9,202; and at the Madras Presidency, at stations still occupied by European troops, between the years 1826 and 1840, out of an aggregate strength of 76,419, 6·9. In both Presidencies, however, the great proportion has occurred at a few stations in the line of great thoroughfares, as at Arcot and Bellary, in the Madras Presidency, and Bombay, or Colaba and Kurachee, on the Bombay side; or between Bombay and Poona on the line of march. For instance, at Secunderabad and Cannanore, it was only 1·2 and 1·5 respectively, whereas at Arcot up to 1844 (see tables published by Dr. Nicholson, Deputy Inspector-General) it was 37·2 in small numbers: and at Bellary, 17·8 out of an aggregate strength of 10,232. At Deesa, again, in the Bombay Command, between Guzerat and the desert of Scinde, it was a mere fraction, or until 1842 we may say nil; and even that year, although almost every case proved fatal, the number of deaths among the men of the Queen's Royal amounted only to 10, the disease having been confined chiefly to the Regimental

Bazaar, married men's huts, and the hospital, particularly the female hospital, whereas in Bombay and Colaba, the three years that our regiment was there in 1831, 2, 3, the average mortality runs 15 per 1000 of strength.

Conclusion.—We may now conclude with a general summary and recapitulation of the comparative mortality from each class of diseases; and here we would premise, no marked difference in this respect exists between the Bombay and Madras Presidencies, except as regards dysentery. By this the proportions are nearly as 2 to 1 in favour of Bombay, and that not at one station only, as at Secunderabad, but everywhere under similar climates. In Bombay, the total mortality, exclusive of cholera and on field service, may be estimated at 28 per 1000 of strength, and in Madras at about 35, as follows: Consumption, 2·5; diseases of the heart and large blood-vessels, 3; fevers, 5 or 6; hepatic, 4·5; dysenteric (Bombay), 8; Madras, 14; cerebral, 2; surgical, say 2; dropais, 1 or 2; and cholera, say 6 or 7.

Canterbury, Nov. 24, 1846.

MEDICAL CONTROVERSIES.

DR. CHEYNE remarks, in reference to a work which he wrote against a treatise by M. De Moivre, that, "being written in a spirit of levity and resentment, I most sincerely retract and wish undone, so far as it is personal or peevish, and ask him and the world pardon for it, as I do for the defence of Dr. Pitcairn's Dissertation on Fevers against the late learned and ingenious Dr. Oliphant. *I heartily condemn, and detest all personal reflections, all malicious and unmanly terms, and all false and unjust representations, as unbecoming gentlemen scholars and Christians, and disprove and undo both performances, as far as in me lies, in everything that does not strictly and barely relate to the argument.*"—*Life of Dr. Cheyne.*

. Many modern controversialists of the medical profession might profit by the example of this candid old physician of the seventeenth century. Nothing can more strikingly shew the absurdity of indulging in violent controversies on medical subjects, than the utter indifference of another generation to them, and the complete oblivion into which they sink in the course of a few years. But medical writers are of an *irritable genus*; and it is a rarity to meet with such an example of candour and good feeling as that shewn by Dr. Cheyne.

INJURIES OF THE HEAD;

WITH SOME CASES AND REMARKS. .

By JAMES SNELL, M.R.C.S. &c. &c.

As the medical world seem to be at issue in their opinions respecting the judicious treatment of *injuries of the head*, including on either side some of our most eminent surgeons, I am induced to trouble you with the following cases of *compound fracture of the cranium*, with depression, in two of which *injury of the brain* occurred; and shall be happy if they tend in any degree to determine a question upon which disagreement is so much to be deplored.

The late Sir A. Cooper observed:—"Compound fractures, with extensive or deep depression, should lead to the application of the trephine, although there are not symptoms of compression; and the same should be the treatment of compound fractures." Opposed to this opinion, Mr. Lawrence observes, "that we *are not* to have recourse to the trephine, except where there is depression of the bone, and that depression is accompanied with symptoms of pressure of the brain." The late M. Dupuytren also observed:—"Aussi long temps que les plaies de tete ne sont accompagnées d'aucun accident cerebral, il faut se borner à un sage expectation, et les traiter comme des plaies simples." "C'est la compression cerebrale qui peut seule engager la chirurgien à recourir au trepan, mais alors l'indication est aussi pressante que positive."

The experience of some years as surgeon to extensive mines in this country, where these accidents, in all their varieties, are of continual recurrence, has secured to me ample opportunities of observing the results of both modes of treatment in such cases; and I am led to the conclusion that, where there are no symptoms of cerebral pressure, non-interference is the better practice. I need hardly observe, that our treatment should never be irrespective of the constitutional temperament and habits of a patient, whether we view them in the country squire, the London drayman, or the Welsh mountaineer.

In no portion of the world, India excepted, have I detected such restora-

tive powers,—so anti-inflammatory a diathesis, and consequently such tenacity of life, as in the latter. Among a large number of the cases of compound and comminuted fractures, often extending into the joints, submitted to my supervision, a considerable majority would *elsewhere* have been consigned to amputation, but which are *here* exhibiting restored and useful limbs. These proofs of the “vis medicatrix naturæ” unquestionably arise from a naturally sound constitution, the pure air breathed, and their simple and abstemious habits.

CASE I.—Dec. 1, 1843, John Morgan, aged 12, caught one of the mountain ponies, and, in frolic, jumped upon his back, without saddle or bridle, and galloped him over the hills, then covered with snow. The pony tripped and fell, and the boy being thrown over his head, face downwards, the fore-foot of the animal struck the boy's head just below the junction of the occipital and parietal bones on the right side. On my first inspection of the case, I found an extensive and profusely-bleeding wound, from which had exuded about a dessert-spoonful of brain. The bone was fractured to the extent of an inch and a half, being deeply depressed on both sides of the fracture, leaving the centre embedded in the brain. The accident had rendered the boy senseless, but for how long he could not tell. On recovering, however, his consciousness, he got up, when, being seen by some one passing by, a handkerchief was tied round the wound to arrest the hæmorrhage, and he was carried home. When I saw him, he was perfectly sensible, but pallid from loss of blood and fright. The head was shaved, and the bleeding vessel having been, after some little trouble, discovered, its action was speedily arrested by continued pressure and cold water. As there was still a sanguineous discharge from the fractured bone, it was dressed lightly, to allow of its escape. The head was ordered to be kept wet with cold water from a basin slung above the pillow through a strip of rag hanging from it, the head being covered only with a doubled rag: perfect quiet, and a diet of milk and water, were enjoined.—Calom. and P. Jalap. Co. administered. When I saw him the following day, he was calm, collected, and perfectly con-

scious. There had been no action from the bowels; but little sleep; and the skin was somewhat hotter than natural. Some inflammation of the wound appeared; and, as the oozing had ceased, and a loose flap of the scalp hung down, I brought the parts together with stitches and isinglass plaister, leaving holes here and there for the effusion to escape as it might arise. A saline purgative, containing Ant. Tart., was then prescribed until the bowels should be freely opened. As there had been considerable loss of blood, I deemed it prudent to omit venesection, especially as his pulse was very low.

On the *second* day, my patient remained still calm and collected; had slept better; the bowels also had been several times relieved; the skin, however, continued hot, and pain in the forehead was complained of. The wound presented a favourable appearance through the isinglass plaister, which of course I did not disturb. I now ventured, as the pulse was becoming full, to bleed him to the extent of six ounces, ordering him calomel and antimony at night, and a saline draught in the morning: the diet and local applications to be persevered in.

On the *third* day, I found him tranquil and comfortable; pulse normal; bowels relieved; skin moist, and the pain in his forehead diminished. I proceeded to cut the stitches and remove them, wiping away with a sponge the discharge from the wound, which assumed a healthy appearance. I left the plaisters as they were, and ordered a continuance of the same diet (milk and water), a repetition of the medicine, and perseverance in the topical applications.

It would be tedious to add more upon the case than this—that from this period not an unfavourable symptom betrayed itself: the wound healed kindly, the lad became perfectly restored, and has remained well to the present hour.

CASE II.—Mary Davis, 18 years of age, applied to me, March 25, 1845, with an extensive wound of the scalp over the posterior portion of the parietal bone. The bone was slightly depressed, presenting a starred fracture. There was a small hole, through which a probe might readily be passed to the dura mater. The injury was received

while assisting her master to dig potatoes, who, as she stooped down to pick them up, accidentally struck her head with the sharp point of his pick-axe. She was stunned by the blow, and remained unconscious for some time; then gradually recovered her senses, having vomited, and at length walked to my residence, a distance of two miles. After cleansing the wound of coagulated blood and tobacco,—the latter a sovereign remedy here for all wounds, and which had therefore been applied to stop the hæmorrhage,—I found the scalp considerably detached, and hanging down in the form of a lengthened triangular flap. This was restored to its proper position, being retained there by stitches passed lightly through the integuments. The head having been previously shaved, and the wound well painted with Tinct. Iodinii, isinglass plaister completed the dressing, while the cold water to the head was, as before, enjoined to be continued. With the exception of the girl's looking somewhat paler, she was as composed and collected as though nothing had transpired. The *following* morning she walked over the hills to my house. No cerebral disturbance was betrayed, either by the circulation or otherwise. The wound looked well through the plaister, and was left undisturbed. Calomel, with P. Jalap. Co. was given to open the bowels, as they were confined. The diet and local application were ordered to be strictly employed.

¶ On the *third* day, I found my patient not looking or feeling so well; her bowels had been unmoved; there were pain in the head and considerable heat of skin; the pulse was full, and she complained of lassitude and depression. Having taken away 3xij. of blood, I gave her Calom. gr. viij. and P. Antim. gr. iv. with a saline mixture, containing Vin. Ant., to be taken until the bowels were freely relieved. The wound itself looked swollen and puffy: three leeches were applied to its edges: it was re-painted with the Tinct. Iodinii, and dressed as before.

On the *fourth* day, the girl again walked down to my residence, evidently much better; but she still complained of pain in the fore part of the head, while her pulse was fuller, and skin hotter than natural. The wound looked fast improving, the swelling

subsiding, and the discharge healthy. I bled her to the extent of six ounces; administered Cal. and Ant. at night, with a saline purgative in the morning.

On the *fifth* day, my patient was in all respects convalescing: in fact, she observed that she felt nothing now to be the matter with her, with the exception of pain in the wound. From this period the case progressed as I could wish, without one untoward symptom, and on the 20th April (not four weeks from the accident) she was perfectly restored.

CASE III.—Mary Jones, 9 years of age, was brought to my surgery, March 30th, 1845, with an extensive wound over the left eye. She had received a kick from a vicious horse while playing near his heels, and, had she not been so close to him, the skull must have been broken into atoms. Discovered by her mother senseless, she at once brought her to me,—a distance of three miles. During the journey, the child vomited, and became gradually, but only partially, sensible. There was a large wound through the scalp two inches in length: the bone was depressed and starred nearly to the extent of half-a-crown in circumference, the brain exuding through a small aperture in the centre. There were several loose portions of bone readily removed by the forceps and lever. The head was shaved, and the wound, as usual, lightly dressed. Calomel, and P. Jalap. Co. were given; the milk and water diet, cold water to the head, and perfect quiet in bed, were enjoined.

On the next day, I found the child had vomited during the night a quantity of green bilious matter, and had not slept; the bowels were unmoved; the pulse was full and strong; the skin hot; and excessive thirst prevailed. I bled her to the verge of fainting; ordered Calomel and Antimony every four hours, and a brisk saline purgative. The wound was much swollen, and had a puffy feel, with confined matter underneath. I removed the plaisters, applied three leeches to its edges, used the Tinct. Iodin. (my customary application to all compound bruises and lacerated wounds), and dressed it as before.

On the *third* day, perfect consciousness was restored, and the child was

altogether better. The bowels had been well relieved; sleep to some extent had occurred; the skin was perspiring; the pulse was soft and full; the swelling of the wound also was diminished, the skin beginning to wrinkle,—proving that inflammation was on the decrease: it was therefore not disturbed. Medicine, diet, and local application, were continued.

On the *fourth* day, I found that tolerable sleep had been enjoyed; there was no pain in the head, except at the seat of the injury. The wound looked well; the inflammation was subsiding; considerable and healthy discharge had occurred. The former treatment “a *tous egards*” was persevered in; and from that time all progressed most favourably. The child was soon sufficiently well to come to my abode, and, with the exception of some spiculæ of bone that came away, interfering with the closure of the wound, it healed rapidly, and without further trouble.

CASE IV.—Edward Jones, 38 years of age, applied to me May 1, 1844, with a large scalp wound, the flap of which was pendent over the ears. The parietal bone on the right side was laid bare, and a starred fracture, with depression, was at once detected. The right superior eyelid was also torn away from its attachment, and hung down over the cheek, exposing the upper cavity of the socket; the left inferior eyelid was also torn away from the nose, and hanging in a flap; there were, in addition, various other bruises and cuts of a minor character over the head and different parts of the body. These injuries arose from a regular fight between the Welsh and English miners on their pay-day, in which it had been his luck to be first struck over the head with an immense stone thrown at him from a window above; then, while on the ground, stunned and senseless, he was kicked over the head and face by the heavily-nailed shoes of his opponents. Being at length dragged out from the *melée*, after some little time he recovered consciousness, vomited, swallowed a glass of brandy, and started off across the mountains (a distance of 12 miles) to my residence. His aspect was certainly most peculiar and appalling. His unwashed face, hair and whiskers clotted with blood, formed one hard solid mass; his hands also were lacerated

and bloody; yet, with all this, he was perfectly calm and collected. Washing and shaving his head, on which there were innumerable cuts, scratches, and bruises, I brought to its normal position the detached integumental flap, securing it there by the customary mode of stitches and isinglass plaister. The upper and lower eyelids were also replaced and stitched, the whole being well painted with the Tincture of Iodine. Having attended to the other minor injuries, and made him as comfortable as his painful position permitted, he again started off across the mountains, not a little to my surprise, suffering to all appearance but trivial inconvenience.

On the following morning he presented himself at my house after having walked the same distance. His pulse was low, full, with occasional intermissions; his lips were blue; his tongue was furred; skin hot and dry; and he complained of pain and giddiness in the head. He was a strong powerful young man, and said that he had never, in the whole course of his life, ailed anything. I bled him to the extent of 3xx., gave him 10 grains of calomel, a saline mixture, with Vin. Ant. Tart., and had him conveyed home in a cart, begging him to keep his bed, and send me word how he felt in the morning. But no sooner did morning arrive than I was greeted with a sight of my patient on horseback, stating that he felt so well he thought he had better come himself. I found the wounds all looking favourably, and cut the stitches in some places (having a great dislike to them in injuries of the scalp), re-dressed the wounds as before, and enjoined the continuance of milk and water diet, with the cold water lotion to the head, &c. As there was still pain in the head, with a full pulse, &c., I took away 3xij. of blood, administering calomel and antimony at night, and a mixture of Salts c. Vin. Ant. to take during the day. His bowels having acted well, he was very anxious to be allowed some improvement in his diet, but positively interdicting this, I ordered him to go home, keep himself quiet in bed for two or three days, letting me know how he was progressing daily, and, if needful, promising to ride over and see him at home. On the second day, however, he again walked over, although it was

intensely hot, declaring that he was very well in health, and that the local injuries alone inconvenienced him. From this time the case continued to progress favourably, and on the 21st of the month the wounds were nearly all healed. One peculiarity of this case was, that there was total blindness of the left eye, although the ball was uninjured. The only appearances of disease it presented were a largely dilated pupil, and a slight puckering at one point of the iris. However, he would not listen to more being done, feeling, as he said, quite satisfied with having escaped so well under so severe a "licking."

In reviewing these cases one is led to inquire—Is a medical practitioner justified in leaving such, so grave and formidable, to nature—"la chirurgie expectant"—or should he not anticipate the more serious symptoms by operating to remove the depressed bone? It would ill become me to profess indifference to such high authorities as those of Sir A. Cooper and Sir B. Brodie; still, with facts such as those I have detailed before me, I feel that duty points to a practice at variance with their opinions, especially when modified by the temperament and habits of health and simplicity. It has been remarked by Chomel, "The second law of therapeutics is to do good, the first being not to do harm." Applying this to the brain, may it not advantageously be left, in cases such as we have been considering, to the restorative process of nature, only "watching the disease while she effects the cure?" Fixed rules, however valuable, admit of judicious exceptions; and, whether derived from eminent men or books, the sound practitioner will be bound by none, he will be compelled to think for himself. But how important, then, that he should think correctly! That elegant and facetious writer, Dr. Hull, very justly observes, "If there be a solitary word which would comprehend one's ideas of an effective practitioner, that word is—discrimination!" It need hardly be subjoined that such must be the result of two things—the careful study of other men's opinions, and the application of those based on our own experience.

Hafod, South Wales,
Dec 10, 1846.

RECORD OF CASES,

By THOMAS MAYO, M.D. F.R.S.

Physician to the Infirmary of St. Marylebone.

[Continued from p. 195. Vol. xxviii.]

SARAH WATSON was admitted into the Infirmary, December 13th, 1846, aged 53, of a thin figure and poor constitution. She had the day before, while working, fallen down insensible. Consciousness had shortly returned, but not the power of standing. I found her, on the 14th, paralysed as to motive power in the left arm and lower extremity, and on the right side of her face, the mouth being drawn and the tongue protruded to the left; articulation but little affected; urine and motions passed with little power of control; pulse quiet, 70. She complained of no uneasiness except some pain in the right side of the head, and was perfectly conscious. Nearly in this state she continued until her death, which took place on the 18th, except that sleepiness gradually increased upon her, which for the last 8 hours amounted to coma.

Her bowels were at first freely relieved by one minim of Croton Oil. A blister was applied to the nucha, and two grains of calomel given throughout 8vis horis.

Post-mortem.—Convolutions of the brain flattened; meninges injected; substance of brain firm; recent apoplectic clot weighing 1½ oz. occupying the entire corpus striatum of the right side, and entirely confined to that hemisphere. Heart rather large, weighing 10½ oz.; concentric hypertrophy of left ventricle; one mitral valve somewhat atrophied, with vegetations at its free edge, and a small osseous deposit at its root. The other valves exhibiting also some vegetations. Large osseous matter at the root of the aortic valves easily broken off from the surface. The entire lower lobes of both lungs in a state of red hepatisation.

There are circumstances worthy of remark in the post-mortem appearances of this case compared with its symptoms. Paralysis occupying one side of the face (that to which the clot belonged), and the limbs of the opposite side. The peculiar state of the senso-

rium, probably induced by this grave lesion, under which the patient, though retaining sufficient capacity of thought for some conversation, was rendered impassive to the pulmonary phenomena; no dyspnoea whatever being evinced. This change apparently wrought in the sensorium, where cerebral disease has co-existed with pulmonary, has been the subject of a former contribution of mine to the *MEDICAL GAZETTE*. The subject is important, since we have the power of testing the possible presence of congestion in the thorax by percussion or auscultation, and in cases of less formidable extent than the present, relief applied to the thoracic organs might give its best chance to the cerebral circulation, and to the contingent absorption of the clot.

[To be continued.]

ON THE
NATURE AND PRINCIPLES OF TREAT-
MENT OF INFLAMMATION,

AND THE ALLIED DISORDERS OF THE
CIRCULATION.

BY GEORGE ROBINSON, M.D.

Fellow of the Royal Medical and Chirurgical Society, formerly Lecturer on General Pathology in the School adjoining St. George's Hospital, and now Lecturer on Forensic Medicine in the Newcastle-on-Tyne Medical School.

[Continued from last vol. p. 1014.]

PART VIII.

WE have now to consider the third effect of an unnatural increase in the pressure of the aortic blood; viz. an unusual accumulation of fluid in, and consequent distension of, the rest of the arterial system. While walking, or taking any other kind of moderate exercise, we can, by our sensations and by the greater pulsation of the superficial arteries, trace the gradual passage of the accumulated blood from the aorta into the smaller arterial branches. In these cases the accumulation consequent on the increased disproportion between the influx and efflux of arterial blood merely occasions a slight increase in the calibre of the smaller vessels, and a more rapid circulation through the capillaries and veins, with increased activity of the various functions served by the columns of blood traversing the former vessels. But when, as during violent exercise, the pressure of the

arterial blood is more considerable, it not only induces inordinate pulsation of the different arteries, but also occasionally causes extravasation of blood from the rupture of some of the smaller and weaker vessels; and, under these circumstances, it is also very apt to disorder the functions of the capillary blood-currents. Thus, after running for some time, if unused to the exercise, or at all plethoric, a small quantity of blood is not unfrequently expectorated even by young and healthy individuals. Fibrinous exudations, the effect of the same physical cause, are also often found in the serous cavities of animals which have been fattened for the market and driven some distance; and, from the following accidental observation, I conclude that an albuminous condition of the urine will frequently be found in animals hunted to death. Two young rabbits which had been kept in a large room with some older ones were found dead, and, from the superficial wounds present on their bodies, had evidently been destroyed by the stronger animals. In both instances the urine, which was tested from motives of curiosity, contained a considerable quantity of albumen, copious flakes appearing on the application of heat and nitric acid.

It is very evident that these morbid phenomena are the immediate and ordinary effects of an increased lateral pressure of the columns of blood contained within the smaller vessels; and it can also be readily understood that the same distending force which ruptures a small but impermeable artery, and thus causes the escape of the blood *en masse*, will, if less intense, and acting on a finer and more porous vessel, occasion the exudation either of liquor sanguinis, or of a simply albuminous fluid. But it is now necessary to consider the circumstance which prevents the compressed and accumulated blood from escaping freely into the veins, and thus maintains the unnatural amount of pressure of the arterial columns. When enumerating, in a former paper, the natural obstacles to the circulation, I mentioned the contractility of the smaller vessels as one of the most considerable, and represented it as a power opposed to, and constantly resisting, the action of the heart. The phenomena of a languishing circulation, which were first described by Spallanzani, are,

I think, almost conclusive on this point; for, in these cases, the capillary blood-columns, during that slow and feeble action of the heart which precedes death, are seen to advance synchronously with each ventricular contraction, and to recede immediately afterwards, the alternate preponderance of the impelling and repelling forces giving the blood an oscillatory movement. It is true that the elasticity of the tissues may, to a certain extent, co-operate with their contractility in the production of this effect; but the influence of either property upon the passage of the blood through them must be the same. Each must necessarily oppose—it cannot assist—the circulation of the blood. The possession of contractility by the minute blood-vessels being, then, incontestible, it might naturally have been expected that they will also be subject to the physiological and pathological laws common to all other forms of contractile tissue; but, since the decline of Cullen's doctrine of a spasm of the extreme vessels as the proximate cause of fever and inflammation, there has been an evident disposition to regard the capillaries as differing materially in their vital endowments and susceptibilities from the other contractile structures of the body; and, though the vascular tunics, being subservient to functions different from those of the higher forms of contractile tissue, do undoubtedly exhibit a corresponding peculiarity in their action, it does appear to me that the pathological distinction which now separates these varieties of the same vital structure has been too hastily assumed, and has never been satisfactorily established by facts or reasoning. For the explanation of the phenomena now under consideration, it is not necessary to claim for the minute vessels a liability to actual spasm; it will suffice for my present purpose that they be allowed to possess, in common with every other contractile tube or cavity, the power or property of resisting any attempt at their sudden and forcible dilatation; and it must remain for those who are inclined to dispute this proposition to adduce their reasons for considering these vessels as exempt from the operation of a general and well-established law.* This prin-

ciple, then, operating in the contractile capillaries, as in all similar structures of the body, enables us to understand how a *suddenly* increased influx of blood consequent on an excited action of the heart causes a morbid accumulation of fluid in, and distension of, the arterial system, while an almost equal increase in the activity of the circulation, *if slowly and gradually induced*, may exist without the production of any unpleasant or injurious consequences.

Passing from the study of the pathological phenomena following an unnatural accumulation of blood in the aorta and general arterial system, we have now to examine some of the questions connected with a similar derangement of the circulation in the arteries of a particular part or organ. That an undue accumulation of blood in these vessels, with increased pressure of the detained fluid, and, consequently, increased rapidity of the capillary blood-currents, is the pathological condition essentially constituting the local disorder known as determination of blood, cannot, I think, be doubted; for the unusual fulness of the arteries of the part is, in these cases, evidenced by their increased pulsation, while the symptoms referable to the capillary circulation indicate rather unwonted activity than perversion of its natural functions: and in this case, as in that which has just been considered, it is evident that the unnatural accumulation and pressure of the affected blood-columns can only arise from one or both of two causes; viz. increased influx or diminished efflux. Either of these will clearly suffice for the production of the phenomena which constitute determination of blood; and I cannot understand why we should deny the possibility of the latter occasionally acting as well as the former cause. Whichever view we adopt, there can be little doubt that the principle determining that undue supply of blood to a particular artery which acts as the

forces upon contractile tissue. Thus, in the reduction of a dislocated limb, or in the injection of the bladder, or any other muscular cavity, it is found that while a slowly-applied elongating power acts without experiencing any resistance from the contractility of the yielding tissues, the abrupt application of a similar force becomes, in fact, a *mechanical stimulus*, and, as such, instantly causes an extreme contraction of the muscular structures. It is from the operation of a similar exciting cause that the capillaries, under the circumstances above mentioned, resist the influx of the arterial blood.

* Many surgical operations demonstrate the necessity of attending to the influence of *time* in modifying the action of dilating or extending

cause of various pathological phenomena, is, in the nature of the mechanism or contrivance by which it operates, identical with that regulating those variations in the distribution of the blood which are necessary for numerous physiological purposes. Before, then, we can clearly understand how a pathological determination of blood is induced, we must possess a precise knowledge of the nature and mode of operation of the immediate causes of the natural irregularities in the distribution of the circulating mass. And it is scarcely necessary to remark, that we have no positive information on this point. Dr. Billing is indeed the only writer who has even attempted a rational explanation of this action. He supposes that the coats of a particular artery, being weakened by the withdrawal of that nervous influence to which they owe their contractile power, oppose less resistance than natural to the distending pressure of the mass of aortic blood, an additional quantity of which is thus driven into that particular set of vessels. And though believing the contractility of the arterial tunics to be innate, and therefore not dependent upon a supply of nervous influence, I am by no means disposed to deny the possibility of their diminished contractile power, however induced, being occasionally the immediate cause of determination of blood. This view, it will be seen, refers the production of the local disorder of the circulation to an increased influx of blood consequent on the yielding of the coats of a particular artery. But it seems to me equally probable, that the same effect—the distension of the arterial ramifications by an unnatural accumulation of fluid—may result from an increased contraction of, and diminished efflux of blood from, the capillaries of the affected part. The immediate effect of this diminished rate of discharge from the capillaries must necessarily be an accumulation of blood

in, and distension of, the more elastic and less contractile tubes situated behind the narrowed vessels; and in this manner the same phenomena will be induced as from the operation of the former cause. That contraction of the capillaries of the part is adequate to the causation of this pathological state, cannot be doubted, and various observations on the circulation shew that a diminution in the size of the capillary streams does in some cases precede determination of blood: I allude to the phenomena witnessed on the application of stimuli to the transparent tissues of the lower animals; and the increased activity of the cutaneous circulation after *momentary* exposure to cold illustrates the operation of the same principle.

But though from physical reasoning it may be demonstrated that the increased lateral or distending pressure of the affected arterial columns can only arise from some change in the conditions regulating the discharge of blood into and from that system of tubes, it is advisable, in our present state of ignorance of the laws controlling the actions of the blood-vessels, to abstain from adopting either of these changes as the sole and invariable cause of determination of blood. The following tables exhibit the results of a few experiments which were undertaken for the purpose of elucidating some points connected with the pathology of this affection; and, though incapable of removing the difficulty which we have just been considering, they are not without some interest both in a physiological and pathological point of view.

From four young rabbits, of the same size and strength, the left kidney was removed through an incision in the loins, and immediately weighed. The animals were killed at different periods, and the weight of the remaining kidney and the condition of the urine carefully ascertained. The results were that in

TABLE IV.

Experiment	The animal lived	Left kidney weighed	Right kidney weighed	The urine
		Grains.	Grains.	
1	24 hours.	20	25	Contained no albumen.
2	3 days.	21	26	Ditto.
3	4 days.	20	33	Ditto.
4	9½ days.	21	50	Yielded a faint cloudiness with nitric acid.

A considerable number of observations would be required to enable us to determine with precision the average rate of increase in the size of the remaining organ. These few, however, suffice to show that it takes place gradually, and is,—probably from that very circumstance,—for the most part unaccompanied by any pathological phenomena. They also demonstrate the essentially vital nature of the process of arterial determination: for the closure of the left renal artery, as a *physical* cause, could have had very little to do with the enlargement of the right, its action (through the additional accumulation of blood in the aorta) being immediate; whereas the increased size of the latter vessel was clearly referable to the operation of some slowly-acting persistent cause.

[To be continued.]

POLYPUS OF THE RECTUM.

BY MR. SYME.

SIR A. COOPER states, in his Surgical Lectures, that "in the course of his life," he met with only ten cases of polypus of the rectum.

Some time ago, I met with five cases in the course of a single fortnight—two of them in adults, and three in children—and I have seen a sufficient number of other instances of the disease, to satisfy me that it is not by any means so rare as has generally been supposed. It presents itself in three different forms, of which one usually occurs in childhood, and does not appear much beyond puberty. A gentleman now established in practice, not far from Edinburgh, when attending my lectures—then I suppose about 18 or 19 years of age—applied to me for the removal of a polypus, such as is met with in early life; with this exception, I never met with it beyond the 9th or 10th year. It is extremely soft and vascular, of a florid red colour, and assumes the form either of a worm from two to four inches in length, or of a strawberry with a connecting foot-stalk two or three inches long. This tumor seldom protrudes except when the bowels are evacuated, and then admits of ready replacement, although not without occasional hæmorrhage, which may be of considerable amount. The vascularity of this growth, and its attachment above the sphincter, made me averse from removing it by excision; and Sir A. Cooper has mentioned the alarm that was on one occasion excited in his practice by doing so. I have always employed the ligature; and though the soft structure readily gives way when the thread is drawn,

bleeding has never occurred in a single instance, or any other symptom in the least degree disagreeable resulted from this mode of removal; I am therefore induced to regard it as the best that can be employed.

The disease appears in adults in two very distinct forms. In one of these, the growth is soft, vascular, prone to bleed, lobulated or shreddy, and malignant-looking, so as on the whole to resemble very much the cauliflower excrescence of the os uteri, but possesses a peduncle or foot stalk of firm texture, capable of sound cicatrization after being divided. The profuse, frequent, and protracted bleeding which proceeds from this sort of growth, renders its removal an object of great consequence; and this may be effected very easily, and with perfect safety, by transfixing the radical cord of connexion with a double ligature, tying the threads so as to include a half of it in each, and then cutting it across a little below the constricted part. In a patient of Mr. Craig of Ratho, (who detected the disease from the great hæmorrhage it occasioned,) I could not accomplish protrusion of the tumor, but guided a ligature on my finger, and tied it on the neck within the rectum. It is more satisfactory to force or draw the swelling beyond the sphincter, so that the sound and morbid parts may be distinguished with certainty, and this can usually be done with great facility, although the growth has attained a large size. In a hospital case recommended by Mr. Anderson of Castle-Douglas, I brought into view and removed a tumor not less than an orange, which had a most malignant aspect, and had nearly exhausted the patient by hæmorrhage.

In the other form which polypus of the rectum assumes in adults, the tumor is of a firmer consistence, smoother surface, and more regularly spherical or oval form, so as to resemble the growth which in general constitutes *polypus uteri*. The symptoms resulting from this simple swelling are rather annoying than seriously alarming; and the patient, therefore, is apt to delay requiring assistance for a long while. In the case of an old lady, whom I saw with Mr. Hilson of Jedburgh, the tumor was about the size of a cherry, with a long stalk, and we were assured had protruded every time the bowels moved for twenty years. In another case, a gentleman whom I saw with Dr. Johnston of Cumnock, the tumor was nearly as large as an egg, had a cuticular coverings, and appeared to have existed for a period equally long. I have always removed these growths in the way that has been already described, and never met with the slightest consequence of a disagreeable kind.—*London and Edinburgh Medical Journal.*

MEDICAL GAZETTE.

FRIDAY, JAN. 1, 1847.

IN our last number we announced that the Society of Apothecaries had recently taken good legal opinions as to the power which they or others might possess of indicting for a misdemeanor, persons who practise as Apothecaries without their license. We have elsewhere endeavoured to shew, that the provisions of the 55th Geo. III., respecting the recovery of a penalty by civil action, are quite insufficient for the purpose of repressing illegal practice; and we have more than once advocated the necessity for a summary and inexpensive mode of punishment. If the opinions, given by the Law Officers of the Crown, should be regarded by our judges as fairly applicable to the case of unqualified practitioners of medicine, the Society will possess a power which they have been for a long period seeking to obtain by a new act of the Legislature. The statement which they have recently published, is of such importance to the profession, that we here give it *in extenso*.

"The Society of Apothecaries entertaining an opinion, which they have publicly expressed upon several occasions, that a penal check upon the practice of medicine by unqualified persons is indispensably necessary for the protection of the public; and that the pecuniary penalty imposed by the Apothecaries' Act is but ill adapted for checking such practice, have long desired that a more summary mode of proceeding against illegal practitioners should be adopted; and they have advocated an alteration of the law in this respect, whenever a favourable opportunity for so doing has presented itself. A recent decision of the Court of Queen's Bench, in a criminal prosecution instituted against an attorney for practising without qualification, seemed to lead to the conclusion, that not-

withstanding the specific pecuniary penalty imposed upon unqualified persons practising as Apothecaries, such persons might be indicted criminally as for a misdemeanor. This decision appeared to the Society to suggest a mode of proceeding for checking the illegal practice of medicine which might be attended with such important results, that they determined to lose no time in obtaining the highest legal opinions upon the subject. They therefore laid a Case before the Law Officers of the Crown, and it will be found from the answers given to the questions submitted to the Attorney and Solicitor General, in consultation with Mr. F. Robinson, that it is the opinion of those learned gentlemen that an indictment will lie against a person who has practised as an Apothecary without legal qualification. The Society subjoin the questions proposed to counsel, and their answers thereto.

Questions.

1st. Whether an indictment will lie against a person who has practised as an apothecary without legal qualification, notwithstanding the particular penalty imposed upon persons so practising by the 20th section of the Act, and the disability imposed upon them by the 21st section? and if you should be of opinion that an indictment will lie,

2d. In what Courts, metropolitan or provincial, could such an indictment be preferred; and could it be preferred at the instance of a private prosecutor?

3d. Would it be competent for the Society of Apothecaries to prefer such an indictment, notwithstanding the interest given to the Society in the pecuniary penalties imposed by the 20th section, and the particular remedy given to the Society for the recovery of such penalties?

4th. What would be the extent of punishment which could be inflicted by law upon a person convicted of the offence of practising as an Apothecary without legal qualification?

5th. Can any more summary proceeding than an indictment be resorted to, for the punishment of persons practising as apothecaries without legal qualification.

Answers.

1st. We think that an indictment will lie against a person who has prac-

tised as an apothecary without legal qualification, notwithstanding the particular penalty imposed by the 20th section of the Act, and the disability imposed by the 21st section.

2d. The indictment may be preferred in any of the ordinary Criminal Courts having cognizance of misdemeanors committed in the county, or place, in which the party has so illegally practised, and it may be preferred at the instance of a private prosecutor.

3d. We think it is competent for the Society of Apothecaries to prefer the indictment.

4th. The punishment, as in case of other misdemeanors, would be fine or imprisonment, or both, at the discretion of the Court.

5th. We are not aware that any more summary proceeding than an indictment can be resorted to, for the punishment of persons practising as apothecaries without legal qualification.

JOHN JERVIS,
DAVID DUNDAS,
FREDERIC ROBINSON.

Temple, 23d Nov., 1846.

It is perhaps hardly necessary for the Society to point out the increased facilities which this mode of proceeding affords for putting the law in force against unqualified practitioners. Instead of proceeding for the recovery of penalties by a Civil Action, which in the case of a country practitioner could only be tried at the Spring and Summer Assizes, an indictment may be preferred at the Quarter Sessions and at the Assizes also; and instead of the power of proceeding against unqualified practitioners being restricted, as in the case of the specific penalty imposed by the Statute, to the Society of Apothecaries, it will be competent for any person to prefer an indictment who may be disposed to do so. Another distinction between the two modes of proceeding, which is likely to operate still more powerfully as a check upon illegal practice, is this; that whereas an individual against whom a judgment for a penalty is obtained, under the present form of proceeding, can relieve himself from the consequences of his offence by obtaining his discharge under the Bankrupt or Insolvent Acts, an individual found guilty on indictment of having practised as an apothecary without legal qualification, will be punishable by fine and impris-

onment, and will have to undergo whatever measure of punishment the Criminal Court may in its discretion award.

The Society sincerely hope that a public intimation, that the penalties of the law can now be enforced against illegal practitioners of medicine more summarily than heretofore, will deter all persons from practising as apothecaries who have not given such evidence of their competency to practise as the law demands. But if individuals who have not possessed themselves of a legal qualification will persist in practising in the absence of such qualification, they will do so at the risk of being criminally indicted for the offence at the instance of any individual prosecutor who may be induced to prefer an indictment against them. The Society on their part will be ready, as they have ever been, to enforce the law to the extent of the means placed at their disposal, but those means are inadequate to the institution of frequent prosecutions. It may, therefore, be anticipated, that indictments will be preferred at the instance of other parties; and the Society take this opportunity of stating, that they will endeavour to render such experience as they may have acquired in administering the Act of 1815 available in furthering the ends of justice; and that they will be prepared, upon proper application, to furnish any information in connection with the subject of illegal practice which they may have it in their power to afford.

Apothecaries' Hall, Dec. 10, 1846.

There can be no doubt whatever that the Society are bound to take the initiative, and to prove to the profession that unqualified persons may be thus inexpensively prosecuted, and summarily and effectually punished. By unqualified persons, we do not, however, mean those who, while they hold a diploma obtained in a regular way from some British College, infringe the *letter* rather than the *spirit* of the law, by reason of their not having obtained the license of the Apothecaries' Society. On the contrary, as we have elsewhere stated*, regularly educated

* Vol. xxxviii. p. 162.

men, whether they have an English, Scotch, or Irish diploma, should not be placed on the same level with quacks and unlicensed dabblers in physic. This would look like persecution, and render the proceedings of the Society unpopular. It is in the suppression of the class of pretenders who practise without any license whatever, that the Society should exert those powers which it would appear from the foregoing document, they really possess. As to the anticipation that indictments will henceforth be preferred at the instance of other parties, we must observe, that the profession will look to the Society for an example. When they have obtained a few summary convictions, there will be no doubt Medical Associations ready to aid them in their proceedings. It is true that it is competent for any person to prefer an indictment; but we think that the exercise of a power which concerns the good of the whole profession, can only be safely and beneficially undertaken by a society or an Association. No respectable medical practitioner would like to place himself in the position of a public informer; nor can it be expected that the expenses attending the prosecution of an indictment should fall upon any individual member of the profession. If, therefore, the Society are to stand by and throw upon others the responsibility of trying this new experiment for the suppression of illegal medical practice, no good results can be expected to flow from the discovery which they have recently made. So far as their funds will permit, it is assuredly their duty, as legal guardians of the rights of medical practitioners, to demonstrate, by an immediate appeal to the law, the validity of the opinions which they have obtained. A few examples would doubtless have a good effect, and they might then fairly claim the co-operation of the profession.

It is with regret we perceive that the deaths in the metropolis have considerably increased since our last report. They amounted, in the week ending Dec. 19, to no less than 1262, a greater number than we believe we have recorded for any previous week during the year 1846, and exceeding the average of the season by 262! The prevalence and universal fatality of diseases affecting the organs of respiration, sufficiently account for this excess of mortality. The deaths from these diseases were, during the week, 525 (autumnal average 313); and about two-fifths of those who died were infants. The deaths from bronchitis were 147 (autumnal average, 26); and those from pneumonia were 144 (autumnal average, 105). Of the former, about one-third, and of the latter five-sixths, were among infants.

The deaths were still higher in the week ending December 26th. According to the Registrar General's table which has just reached us the total deaths were 1268! There is a slight decrease in the deaths from diseases of the lungs,—these being 508, of which there were from bronchitis, 154: and from pneumonia, 146. Out of the 154 deaths from bronchitis, 44 were among infants, and 77 among persons above sixty years of age: while out of the 146 cases of pneumonia, no less than 102 were among infants, and only 17 among persons above sixty.

Reviews.

Guy's Hospital Reports. Second Series, Vol. iv. Edited by GEORGE HILARO BARLOW, EDWARD COCK, EDMUND BIRKETT, and ALFRED POLAND. 8vo. pp. 498. London: Hightley, 1846.

THE present volume of the Reports contains a variety of highly interest-

ing papers, the length of which will prevent us from giving so complete an analysis of their contents as the importance of the subjects calls for. The first of this series of essays is a paper.—

1. "*On the Fallacies attending Physical Diagnosis in Diseases of the Chest. Read before the Physical Society. Feb 28th, 1846, by THOMAS ADDISON, M.D.*" There cannot be a doubt that the real value of auscultation and percussion was, for many years, obscured by the narrowness and exclusiveness of the views entertained by those who received the stethoscope as an infallible means by which alone every species of cardiac and pulmonary disease could be fully diagnosed. Abandoning the careful investigation of those most important rational symptoms by which the older physicians were enabled to determine with very considerable accuracy the existence of organic lesion within the thoracic cavity, it is certain that many of the earlier advocates of physical diagnosis were found to be continually guilty of errors in the detection, and consequently in the treatment, of internal disease, which were alike disgraceful to themselves, and discreditable to the discovery of Laennec. But it has been within the last few years, when physicians have learned by the exercise of a better judgment, as well as by the stern lessons of experience, that the stethoscope, although an instrument of unequalled utility in the hands of one who does not render it valueless by over-valuing it, cannot be solely relied upon as a means of diagnosis,—that auscultation has gained the character which it justly deserves—namely, that of an indispensable aid in the recognition of certain diseases, the detection of which requires the combined operation, not only of all the senses but of all the sense which the practitioner can summon to his aid. We have great pleasure in meeting with the present essay—the work of a very cautious and practical stethoscopist—in which the author has clearly defined the limits of the means of diagnosis afforded by auscultation and percussion, as well as many of the uncertainties which may arise from the mere observation of physical signs apart from the rational symptoms of thoracic disease.

After describing in a very forcible manner the effect which the enthusiasm, rashness, bigotry, and conceit of the too exclusive stethoscopists have had in retarding the adoption, and vitiating the claims of physical diagnosis, the author proceeds to point out the principal difficulties and fallacies which he has found to attend this mode of investigation. The author's statements are conveyed in a series of propositions, of which we regret that our space will only permit us to quote a few.

"When acute disease of the lungs occurs in persons with rickety deformity, the violence of the symptoms is often quite disproportionate to the extent and severity of the pulmonary disease; and may thereby suggest unnecessarily active treatment.

"When the abdomen is greatly distended with fluid, the encroachment of the diaphragm upon the chest, and its imperfect descent during inspiration, often give rise to such dulness on percussion, and feebleness of respiratory murmur at the inferior part of the chest, as may be mistaken for effusion into the latter cavity. On the right side enlargement of the liver, and on the left enlargement of the spleen, may, to a certain extent, have a corresponding effect.

"When, with bronchitic rales, the stethoscopist detects some dulness of sound on percussion, tubular respiration, bronchophony, pectoriloquy, and gurgling, it still is not exclusive evidence of phthisis; as the whole of these signs may result from the permanent changes produced by a former pleurisy; pleuro-pneumonia, or hooping cough; or even from a recent pleurisy or pneumonia; when these several conditions happen to be associated with considerable bronchitis.

"When the bronchi opening into a phthisical cavity are temporarily obstructed by secretion, auscultation may fail to detect that cavity, especially if the patient breathe but moderately; and should the cavity be larger and superficial, the fallacy may be rendered more complete by a certain degree of resonance being elicited by percussion. In every case of suspected phthisis, therefore, we ought to cause the patient to breathe and cough with some violence; and repeat the experiment from time to time, whilst the ear continues to be applied to the chest. I have known large cavities overlooked from a neglect of these precautions: the puerile respiration which so often surrounds phthisical obstruction tending not a little to promote the fallacy.

"When pneumonia occurs in its simplest form, that is, with little or no bronchial

complication, there is sometimes no cough, and consequently no expectoration; the whole case so closely resembling common continued fever, that both the stethoscopist and the non-stethoscopist are apt to be thrown off their guard. Physical examination of the chest does not enable us to distinguish an advanced stage of pneumonia with considerable bronchitis from pneumonia with breaking up of the lung; a difficulty the more embarrassing, inasmuch as the former may pass into the latter. I very much doubt whether physical examination can, in any instance, determine with certainty the existence of simple tubercles in the lungs.

"We may be called to a case of pleurisy, before a single physical sign has been developed. In such a case, it may be doubtful whether the pain arises from pleurisy, neuralgia, or the approach of shingles.

"When pleurisy occurs low down in the angle between the ribs and diaphragm, and especially when situated anteriorly, a considerable period, perhaps several days, may elapse before auscultation can detect either pleuritic rubbing, cegophony, bronchophony, or tubular respiration; while percussion proves fallacious, in consequence of the liver on the right, and of the inflated stomach on the left side.

"When the effusion into the chest is of the purely serous kind, or when the proportion of albuminous material is very inconsiderable, the fluid gravitates to the floor of the cavity, and may, unless very abundant, entirely escape detection, either by auscultation or percussion.

"When serous effusion is very considerable, giving rise to unequivocal bronchophony, tubular respiration, and want of resonance, and normal vibration, physical examination has repeatedly led to a mistaken belief that these signs resulted from pneumonia or other consolidation of the lung.

"Auscultation does not at all times enable us to distinguish a friction sound produced within from a friction sound produced without the pericardium; *i. e.* friction between the pericardial surface from friction between the loose pericardium and lung, or parietes of the chest.

"A sound closely resembling a valvular murmur appears not unfrequently to be produced by the stroke of the heart against a portion of lung, interposed between it and the parietes of the chest. Under such circumstances, auscultation may lead, and I believe has led, to the erroneous conclusion that the heart is diseased when it is perfectly normal in every respect.

"In certain diseases of the heart, especially when the organ is enlarged, it is difficult, or impossible, accurately to localize the murmurs, however distinct and obvious these murmurs may be.

"Auscultation cannot distinguish the murmur of an aneurismal or otherwise dilated artery from the murmur occasioned by some source of pressure upon the same vessel."

The above selections from the forty-two propositions which form the leading statements contained in this paper will give a fair idea of the importance of the subjects brought under discussion. Many of those propositions are illustrated by appropriate cases, and in a large proportion of their number it is shewn how the uncertainty of a physical diagnosis may be in some measure, or entirely, removed by a cautious analysis of the rational symptoms. We earnestly recommend not only the perusal but the study and investigation of this important paper, as well to those who obstinately deny the value of auscultation and percussion, as to those who are disposed to rely too confidently in the infallibility of physical diagnosis.

II. "*Examples of Ptosis. With Illustrative Remarks,* by JOHN F. FRANCE."

In this paper, which forms a valuable addition to the series of practical essays on various forms of ophthalmic disease, published by Mr. France in late numbers of the "*Reports*," the author has given the details of twelve cases illustrative of the various circumstances under which paralysis of the upper eyelid is liable to occur. The author considers that the immediate causes of the suspension or interruption of the function of the proper nerve are reducible into two classes;—"first, those which act by creating pressure upon the nerve, *ab extra*, including tumors, effusions, extravasations, displacements of bone, &c. secondly, those which depend upon original affection or disintegration of the nervous structure, as by inherent disease, concussion, or division."

The author considers that the peculiar proneness of the third nerve to suffer from causes of pressure which do not appear to implicate the other cerebral nerves, is in great measure due to the peculiar anatomical relations of this nerve within the cranium, he observes—

"We find the nerve, almost throughout the whole of its intracranial track, in the immediate vicinity of those which must be regarded as very dangerous allies: first, hooking round the posterior cerebral artery,

to traverse the narrow interval between that vessel and the superior cerebral; then running forward nearly parallel to the posterior communicating artery, in a degree of proximity, the occasional mischief of which is demonstrated by the necroscopic examination of case 9; and then crossing the termination of the internal carotid, immediately on its outer side, and closer to it than any other of the nerves contained within the cavernous sinus."—(p. 54-5.)

The sixth nerve is in some degree similarly circumstanced; still the author argues that its position in great degree secures it from pressure, although it does occasionally suffer like the third.

The history of the case (the 9th), above adverted to, presents so many points of interest that we cannot refrain from quoting its leading details.

"S. S., aged 20, a somewhat stout and short-necked girl, servant of all work, who had indulged in an over plentiful diet, (partaking of meat thrice daily), and was subject to a very constipated condition of the bowels, was admitted May 13th, 1846, with ptosis on the right side. She then stated: that for a month she had suffered from headache and giddiness, while sitting at needlework; and five days before admission was suddenly seized with pain in the head over the right eyebrow, accompanied by faintness and vomiting. Leeches were applied with relief, but the next morning she found the right upper lid drooping, and vision on the same side impaired. She had since been bled, leeches, and purged; notwithstanding which, the fall of the lid and impairment of vision had both increased.

"May 13th.—The symptoms were as follows:—the right superior palpebra was dropped to such an extent as still to cover half the cornea, when raised as much as practicable without wrinkling the forehead; the movements of adduction, elevation, and depression of the right globe were more limited than natural: that of abduction was perfect. The right pupil was about thrice the diameter of the left; but separately and conjointly contractile, though to a slight extent only. Vision on the affected side was considerably impaired, so that the patient read the large letters over her bed imperfectly; and the light was somewhat painful to the same eye. Diplopia arose on regarding an object at more than a short distance to the left of the median line: the left eye was unaffected. She was free from pain and giddiness; and, except for the condition now described, felt quite well: the bowels were stated to be open, and the menstruation regular; the pulse was steady, but rather feeble.

"On the 15th the ptosis had become complete; on the 18th, the gums being affected by mercury, some improvement in the movements of the lid and globe appeared to have taken place; but the right pupil was full thrice the diameter of the left. On the 20th, the power over the lid and globe again diminished; the pupil, though widely dilated, exhibited a trace of contractile power on exposure to light: diplopia had subsided.

"On the evening of the 30th she retired for the night, complaining only of some headache, which it seemed she had never been quite free from while in the hospital. She slept comfortably until five o'clock, A.M. on the 31st, when the nurse's attention was attracted by her moaning. The patient was then found in a state of insensibility, discharging froth at the nose and mouth, with deep, low, stertor, and without convulsion. Cupping to the neck and other measures failed to afford relief, and she died at nine o'clock the same morning.

"On examination of the body, with the exception of a few cystiform growths in the ovary, of small size, the viscera of the chest and abdomen were found healthy. There was considerable recent extravasation of blood at the base of the brain, penetrating extensively in the meshes of the pia mater between the convolutions. The hæmorrhage had taken place from the posterior communicating artery of the carotid of the right side, through the parietes of which was an aperture, overlaid by a circumscribed clot (termed by some an aneurism), of about the size of a large pea. Under this the right nerve of the third pair was spread out, having obviously undergone a degree of compression, by this older effusion, more than sufficient to explain the arrested functions of the nerve. Upon section, the tumor proved to be a solid clot. The preparation is now in the museum, marked 1501⁵².

[To be continued.]

Elements of Chemistry; including the actual State and prevalent Doctrines of the Profession. By the late EDWARD TURNER, M.D. F.R.S. L. and E. Eighth edition. Edited by BARON LIEBIG, Prof. of Chemistry in the University of Giessen, and WILLIAM GREGORY, M.D. F.R.S.E., Prof. of Chemistry in the University of Edinburgh. Vol. I. Inorganic Chemistry. pp. 676. London: Taylor & Walton. 1846.

THE fact that this excellent work has reached an *eighth* edition, renders it scarcely necessary for us to do more

than announce its appearance. We lately noticed a re-publication of Professor Graham's Elements; and a new edition of Professor Brande's Manual of Chemistry is about to appear. Nothing, perhaps, shews more strikingly the extensive diffusion of a taste for chemical pursuits among the public and the profession, than this simultaneous demand for new editions of the three standard English treatises on the science.

The additions made to the subject of Inorganic Chemistry in the volume before us do not appear to be very numerous. It is chiefly in the department of Organic Chemistry that the progress of the science is indicated in the present day; and in their advertisement the editors announce that many of the sections which are to appear in the second volume have been entirely re-written.

We are glad to perceive from the preface that the Continental chemists are beginning to adopt the British system of equivalents or atomic weights: *i. e.* by taking hydrogen as a standard of unity. This fact appears to us to convey a warning to those English writers on the science who have shewn a strong disposition to import the Continental system into England rather for the sake of novelty, than of effecting any important or useful change. We question the propriety of the editors' doubling the equivalents of phosphorus, arsenic, and antimony, in this edition: it will, we fear, have the effect of producing great confusion in the minds of chemical students respecting the atomic constitution of the compounds of these substances, and will throw the work out of uniformity, not only with former editions, but with other treatises on the science which have deservedly acquired authority. Nevertheless, if the editors perform their task of revision as satisfactorily in the Organic as in the Inorganic branch of chemistry, there will be no reason to complain of these slight innovations, and their labours will tend to maintain the character of a work which, since it first issued from the hands of the late Dr. Turner, has always enjoyed a high reputation.

Experimental Researches on the Food of Animals, and the Fattening of Cattle. With Remarks on the Food of Man. By ROBERT DUNDAS THOMSON, M.D., Lecturer on Practical Chemistry, University of Glasgow. 12mo. pp. 195. London: Longman, 1846.

THE author states in his preface that "the present work is based on an extensive series of experiments which were made at the instance of the Government. The original object of that inquiry was to determine the relative influence of barley and malt in feeding cattle; but, as the opportunity seemed a favourable one for investigating some scientific problems of great importance to physiology, and of extreme value in the physical management of man and animals, advantage was taken of it, by permission, to extend the experiments so as to include these objects."

The result of this interesting inquiry has been to establish a number of highly valuable facts in illustration of the physiology of the digestive function in the graminivora, and also to throw considerable light upon certain points in dietetics which are of more immediate importance to our own race.

Dr. Thomson's experiments were performed on cows, and the quantity of milk produced by these animals, while under experiment, was taken as an evidence of the amount of nutrition produced by the several kinds of food and modes of diet employed. As would be expected, this inquiry has led to results which are, in the main, of more importance to the agriculturist than to the physician; but, as the experimenter has throughout his investigation carefully striven to make his deductions bear as far as possible upon human physiology, the subject is one which well deserves the attention of the medical profession. The following are a few of the more practical deductions contained in this treatise; they are by no means novel, but they are of great value as affording demonstrative proof of the correctness of certain doctrines which have hitherto merely rested upon opinion. We can only quote the several deductions, as most of the data upon which these are based are given in the form of tables.

The injurious effects of fasting.—"In

the course of the extensive series of experiments upon cows, afterwards to be detailed, it was found that, when they were not supplied with sufficient food during one day, the product of milk was a day or two in reaching its former average; thus demonstrating that the animal had been weakened by the abstinence, inasmuch as it took a longer period to reach its ordinary condition than was required to reduce it.—(p. 7.)

The importance of proper mastication.—“Two cows were fed on entire barley and malt steeped in hot water; they were then fed on crushed barley and malt, prepared in the same manner. With the entire barley the milk diminished during the second five days of the experiment, while with the crushed barley the milk had a tendency to increase during each succeeding period.—(p. 10.)

The type of human drink.—“The nature of saliva, which is a fluid of the simplest constitution, as it contains 99½ per cent. of water, directs our attention to the nature of the fluid to be used in quenching thirst. It has become customary in towns to stimulate the systems of cattle, more especially of cows, after the fashion of human beings, by the use of alcoholic fluids, such as pot ale, under the idea of increasing the amount of milk. Now as the stimulating portion of this pot ale is alcohol, and contains no curd, or, if so, but an insignificant portion, it is evident that no increase of the nutritive constituents of the milk is thereby obtained. It is an idea, too prevalent with nurses, that fermented liquors increase the quantity of milk; but I am sure all intelligent physicians will agree with me, that this view should not be encouraged, either as improving the quality of the milk, or as benefiting the infants supported on such food.”

We cannot altogether coincide with the author in his opinion that “the saliva would appear to constitute the type of what the drink of man and animals should be,” as it is evident that the saliva is merely a secretion which is intended to assist in certain local operations in the animal economy, and which, under perfectly healthy conditions of the body, is produced in very limited quantities, which are, however, quite sufficient to produce the required results in the system, results which would be interfered with rather than aided by the constant use of a beverage the composition which very closely resembled that of the natural secretion. Water swallowed in moderation is, doubtless, the natural beverage of all adult animals, but we cannot perceive that its constant use is at all

indicated by the nature of the saliva, any more than the habitual imbibition of diluted rennet, or of some albuminous fluid, is suggested by a knowledge of the means by which digestion is accomplished, and of the causes which maintain the fluidity of the blood.

The following principle is in the main true, but it will often fail to hold good in individual instances.

“An increase of labour should always be accompanied with an increase of food both at sea and in prison; a short walk to one confined in a solitary cell calls for some augmentation of food. A slight increase of temperature, or the irritating influence of insects, will effectually diminish the milk of a cow, and indicates the propriety of increasing the amount of fodder.”—(p. 82.)

There can be no doubt that, as a general rule, the quantity of food taken by man and animals should, in every case, be proportioned to the amount of exertion habitually employed by each individual, but we certainly do not find that, in the human subject, every occasional increase of labour necessarily excites in the system an increased demand for solid ingesta. In our present artificial mode of life, a contrary plan appears to be most frequently indicated—unwonted exertions of mind or body generally appear to demand unusual care in preventing the digestive organs from being too severely tasked. We apprehend that, in the latter part of the above quotation, the author has not drawn a correct distinction between the depressing effects produced in the system by irritation, and those occasioned by moderately increased exercise or labour.

Beneficial influence of varying the food of man and the lower animals.—“That a change of diet is necessary for animals which are kept in a confined condition is proved by the tables previously given, in a striking manner, and the results now obtained amply sustain the idea supported by me some time ago in reference to the dietary of human beings shut up in poor-houses and places of confinement. It was then argued that, ‘in order to retain the human constitution in a healthy condition, variety of food should be properly attended to,’ (Proceedings of the Philosophical Society of Glasgow), and different species of diet were suggested as well calculated to supply a series of dishes to the poor. In the asylum for the houseless, and in the House of Refuge of Glasgow, the recommendations were followed out; and, according to the report of the

treasurer, Mr. Liddell, the dinner meals being varied two or three times every week, 'the change in the dietary routine is much relished by the inmates, and may have had some effect in the greater degree of health which has been evident among them of late.'—(p. 143.)

Arrow root an improper food for children.—"Arrow root may be considered as flour deprived as much as possible of its nutritive matter. When we administer arrow root to a child it is equivalent to washing all the nutritive matter out of bread, flour, or oatmeal, and supplying it" [the child] "with the starch; or it is the same thing approximately as if we gave it starch; and this is, in fact, what is done when children are fed upon what is sold in the shop under the title of farinaceous food, empirical preparations of which no one can comprehend the preparation without analysis. Of the bad effects produced in children by the use of these most exceptionable mixtures, I have had ample opportunities of forming an opinion, and I am inclined to infer that many irregularities of the bowels, the production of wind, &c. in children, are often attributable to the use of such unnatural species of food. It should be remembered that all starchy food deprived of nutritive matter is of artificial production, and scarcely, if ever, exists in nature in an isolated form. The administration of the arrow root class is therefore only admissible when a sufficient amount of nutritive matter has been introduced into the digestive organs, or when it is inadvisable to supply nutrition to the system, as in cases of inflammatory action. In such the animal heat must be kept up, and for this purpose calorific food alone is necessary."—(p. 170.)

The above quotations do not by any means fully convey an idea of the careful system of experiment and induction by which Dr. Thomson has arrived at the larger number of his conclusions; but, as we have before stated, the results of the several analyses are given in a tabular form, and therefore do not readily admit of quotation.

The following are a few of the more novel suggestions contained in this volume. The author's observations with regard to the nature of the acid contained in the gastric juice are interesting, but we apprehend that, at present, these facts can only be considered as having a very limited application.

"An acid certainly makes its appearance in the stomach when food is present, but whether this acid takes any part in the di-

gestion or solution is still disputed. During the digestion of vegetable food in pigs, whose stomachs bear a close resemblance to those of man, I have always found a volatile acid present in minute quantities, which corresponded with the properties of acetic acid, but it is the only acid which distills over from the liquor of the stomach at a temperature of 212°. The filtered liquid of the stomach under such circumstances contains no hydrochloric acid, but an acid which is either lactic or corresponds very closely with it."

Hence the author considers it probable that the acid is produced at the expense of the sugar or starch of the food, and adds,—

"It appears doubtful if any considerable quantity of acid is secreted, as is generally imagined, from the coats of the stomach. Corvisart tells us that in a case where there was an aperture in the stomach, the contents of that organ during digestion were neutral; and I have found the contents of the stomach of a sheep during digestion of grass, and several hours after the food had been introduced, without either an acid or alkaline reaction. A strong argument, however, against the hydrochloric acid theory of digestion is derived from the circumstance of the food containing in many instances but an insignificant quantity of chlorides, a considerable portion of which is again thrown out with the dung. Hay made from rye grass, for example, contains often merely a trace of chlorine, while in barley, and other kinds of grain, it is often entirely absent. Now, as it is obvious that the hydrochloric acid, if any were present in the stomach, must be originally derived from the food, the absence of such a constituent in many kinds of food renders its disengagement in a free state in the stomach so much the less probable" (pp. 20, 1, 2).

The above observations certainly appear to prove that free hydrochloric acid is not naturally produced in the stomach of certain animals fed in a particular manner, and that this acid is not an indispensable constituent of the gastric juice of vegetable feeders; beyond this, however, the experiments appear to be inconclusive—as they were merely employed either in animals whose food had in all probability previously undergone acetous fermentation, as in the case of the pigs, or whose ingesta, as in the grass-fed sheep, were greatly deficient in the chlorides. These observations will therefore not apply to the human subject, or to animals in whose food the chlorides are more abundant. It would now be ex-

tremely interesting to undertake an accurate series of experiments for the purpose of deciding what proportion of free acid is naturally produced in the stomach during digestion, at what period its formation is determined, and what is the nature of the acids produced under various states of health, and different kinds of diet in man and in the lower animals. It is probable, however, that this question must remain in abeyance until the occurrence of another case similar to that which furnished the invaluable observations of Dr. Beaumont.

Dr. Thomson cites the opinions of Sir B. Brodie, Mr. Coleman, and Sir C. Bell, in confirmation of his own belief, that when large quantities of fluid are swallowed by the lower animals the liquid passes almost at once into the colon, one of the principal functions of which intestine he conceives to be that of a reservoir performing the same office as the paunch and second stomach of the dromedary and llama, in which animals there are large cells in those portions of the stomach for the retention of water, which is thus supplied to the systems of the animals according to the exigencies of their case. We are strongly inclined to believe that an adaptation of this kind does obtain in certain of the lower animals, but we are unwilling to join the author in the opinion which he appears desirous to suggest, that a similar function is performed by the colon in the human subject. It is true that the contents of the small intestines always enter the cæcum in a liquid state, and that they are usually deprived of the larger portion of their fluid constituents in the cæcum and colon, but it is impossible to conceive for an instant that, in the human subject, fluid ever passes at once, or in large quantities, from the stomach into the large intestine.

The above details will merely give a general idea of the intention and scope of Dr. Thomson's highly interesting and scientific work; the careful and ingenious manner in which each point has been experimentally investigated can only be appreciated after a careful perusal of the entire work. It is a production which assuredly contains many points of great interest to the physician, and which must prove invaluable to the scientific agriculturist.

Proceedings of Societies.

MANCHESTER PATHOLOGICAL SOCIETY.

December 6th, 1846.

Fungus Hæmatodes in the Body of the Uterus.

DR. RENAUD presented a drawing of an encephaloid tumor which occupied the body of the uterus,—a very rare instance of the true encephaloid cancer having its origin in this part.

The morbid growth existed both as distinct fungus hæmatodes and encysted fungoid tumor, and as infiltrated amongst the natural tissues. So entirely was the uterus involved in these changes, and so completely had the infiltration advanced, that no vestige of the natural tissues remained discernible. The fungus sprang from near the fundus of the uterus on the right side, and immediately expanded into a mass which measured nearly eight inches in length, and was upwards of six inches across: its surface was botryoidal, the tuberiform masses being everywhere studded with vascular patches of capillary vessels and effused blood. From the left of the body of the uterus another tumor took its origin: it was invested with a capsule, and when divested of this it displayed every characteristic feature of encephaloid disease, and in size and shape bore a resemblance to the heart of an individual of 14 or 15 years of age. No ulcerations were present at any part, and the only alteration in the os uteri was the presence of cancerous matter of an orange colour, in place of the proper structures. Sections were made through different parts of the growth, and the tumor and the fungus were both seen to be given off from the body of the uterus, and to radiate thence to their respective peripheries. The left ovary was shrivelled and natural; the right ovary was lost amidst the fungiform mass. The mesenteric glands were all involved in cancerous degeneration, but all the other viscera remained unaffected.

The woman was upwards of fifty years of age, and the premonitory symptoms first appeared four years subsequent to the cessation of the catamenial functions. The entire duration of the disease was two years. Ten months had elapsed between the earliest manifestation of the tumor and the termination of the disease in death. Acute suffering, and very profuse hæmorrhages at intervals of two weeks or a month, were the leading symptoms of the disease. Towards the last month of life subacute peritonitis supervened, followed by dropsical effusion into the abdomen.

Melanosis of the Eye.

Mr. Wilson, through Dr. Reid, exhibited an eyeball affected with melanosis which he had excised from a lady 52 years of age. The posterior chamber of the eye was fully occupied with a deep chocolate-coloured grumous matter, and the same malignant matter had penetrated into the optic nerve within its sheath, beyond the proximal cut extremity. On making a microscopical examination of the melanotic substance, it was found to be mostly composed of spindle-shaped cells with long tails, in the bodies of which a fatty and dark granular matter was located. In some of these cells the nucleus was visible, and in others it was obscured. There were also a few dark and rounded granular cells, some scales of stearine, and granular particles of concrete fat.

Two years ago, dimness of vision was complained of, which suddenly terminated in complete blindness. These symptoms were quickly followed by acute lancinating pains in the eyeball and corresponding temple. At her own desire the operation was performed.

The presence of melanotic matter in the optic nerve appeared to diminish the chances of perfect cure. The wound, however, healed kindly, and upwards of two months have now expired without any visible appearance of relapse.

Suppuration of the Lung.

Mr. Thompson, of Stayleybridge, presented the right lung of a soldier, aged thirty-four years, which was almost wholly reduced to a suppurated mass. It weighed 6 lbs. The only other morbid appearance found in the body was a quantity of serum over the convolutions, and in the ventricles of the brain. The pneumonia was marked, in this instance, by symptoms of cerebral affection; and, owing to the deficiency of cough, the diagnosis could not have been complete without auscultation.

Rupture of Lateral Sinus of Dura Mater.

Dr. Charles Bell exhibited a portion of dura mater, in which the right lateral sinus had burst, causing instantaneous death. The ruptured opening which formed an irregular slit in the sinus, in a slightly oblique direction from above downward and from within outward, was situated midway betwixt the torcula ierophili and the jugular fossa. About ten ounces of dark fluid venous blood had escaped into the arachnoid cavity; it was most abundant over the right hemisphere and at the base of the brain. The brain and its membranes, except the lacerated part, were most healthy, as also the arteries at its base. The heart with its valves was as sound as a child's; and every

other organ presented the healthiest appearance.

Dr. B., after pointing out this as a very rare lesion, since in all his experience he had not seen a single instance of this kind before, directed attention to the suddenness of the death resulting from it. The man, Thomas Morrice, a stout, strong, and hale labourer, aged 62 years, who had never complained of any indisposition, after having eaten a hearty dinner, resumed his work as usual, and shortly afterwards, whilst wheeling a barrow, dropped down senseless, drew a deep breath, and instantaneously ceased to live. On careful examination of the lacerated part, the rupture appeared attributable to atrophy of the fibres of the dura mater where the laceration took place; whereby the parietes of the sinus were so much weakened, as to have been no longer able to resist the pressure of the blood in a moment of congestion.

Vesical Calculi.

Mr. Dumville presented specimens of calculi which he had met with in his operative practice.

No. 1. An oxalate of lime calculus, in shape resembling a flat circular pebble, an inch in diameter and half an inch in thickness. It was coated over with fibrinous looking matter, which by covering its asperities gave a degree of softness to the feel. The section showed it to be composed of a variety of calculous matter; the nucleus being amorphous lithate of ammonia, the next layers lithic acid, and the external shell oxalate of lime.

The patient, a very fat boy, 6 years of age, had symptoms of vesical calculus for 5 years. The microscopical examination of the urine showed an abundance of lithic acid on some occasions and of oxalate of lime on others, and sometimes they were to be observed in the same evacuation. There was extreme difficulty in making a positive diagnosis in this instance, and the operation was delayed in consequence for some months. About six weeks ago it was successfully performed, and the boy is now in perfect health. The coating of fibrinous matter on the calculus might possibly have added to the difficulty of detecting it with the sound.

No. 2. An orbicular calculus equalling the size of a walnut. The nucleus consisted of several layers of lithic acid, the next strata being pure oxalate of lime, which had formed a singularly spiked stone, until these projections became filled up with a mixture of phosphate and oxalate of lime. The spikes had been a quarter of an inch long, sharp at their points, and the eighth of an inch thick at the base.

The patient, a youth, aged 13 years, was afflicted for many years with symptoms of

stone, and at one period the suffering was so severe that his general health became sadly shattered. This period of intolerable agony passed over, and the symptoms remained in a milder form. At this stage he was for some months a patient at the Infirmary, and was repeatedly sounded without success. He became a patient at the Ardwick and Ancoats Dispensary about four weeks ago; lithotomy was forthwith performed by Mr. Dumville, and the recovery has been rapid. The extreme agony endured at the above-mentioned period would appear attributable to injuries sustained by the bladder, whilst the calculus yet existed with the bare spikes, prior to their being embedded in the phosphate of lime.

Another specimen of calculi with spikes, composed of lithic acid, was also exhibited, as further illustrative of the degree of suffering being in some measure dependent on the form of the stone. These calculi were three in number, of different sizes, in weight 8, 3, 2½ grains respectively, but essentially of the same curious form; so that the description of the large one will serve for all. It consisted of a central spiked axle, from the middle of which projected five spikes as spokes in a wheel; making thus in all seven spikes. The points of the axle spikes had each three spiculæ, whilst the points of the five spikes perpendicular to the axle had each two spiculæ.

These calculi were found after death in the bladder of an old man, who had experienced constant distressing desire of making water and extreme suffering in passing it. The bladder was greatly hypertrophied. Notwithstanding the excessive irritation occasioned by the calculi, still there had been no deposition of phosphates.

Tubercle in bone.

DR. WATTS directed attention to a case of tubercle in the cancellated structure of the bones, which he illustrated by a series of drawings.

The patient, a pale-looking, badly grown, strumous boy, 16 years of age, who came under treatment for dropsy of the belly and anasarca, died gradually exhausted with hectic fever. He had no symptom which could have revealed the existence of the disease found on examination after death.

The cavities of the chest and belly contained much serous fluid. The peritoneum was everywhere thickened, lead-coloured, and studded over with tubercles. The glands of the mesentery were enlarged and tuberculous. There was an immense abscess, containing four pints of curdy pus, situated on each side and in front of the spine, which was here denuded of periosteum. The kidneys were enlarged and pale. The testes were small, and had not passed out of the abdo-

men. Very little tubercle obtained in the lungs, merely a few grey granulations. There was a cicatrix on the inner aspect of the left shoulder, where an abscess had opened two years previously, which, after discharging matter for some time, healed. The boy had not lately complained of pain in this part. On opening the joint, pus escaped; the articulating surface of the humerus was rough from being denuded of its usual smooth covering. The section exposed to view a most perfect specimen of yellow tubercles in the cancellated structure of the head and neck of the bone. The cancellated substance was deeply congested with blood, intensely red, and slightly, perhaps, softer than in its healthiest condition; in the midst of the red cancellæ were seen the straw-coloured tubercles, with irregular-shaped but clearly-defined margins, as in fig. 1. Similar tubercles were also found in the diseased lumbar vertebræ.

FIG. 1.

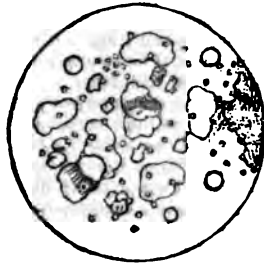


These tubercles presented essentially the same microscopical appearance as yellow pulmonary tubercle. They consisted of remarkably well-developed tubercle concretions and granular matters, in which were seen here and there a few oil-globules, and everywhere innumerable gaseous bubbles of the most minute size, like mere points, probably the product of chemical changes.

The concretions were perfect specimens of their kind, and withal more plump than those usually met with in the tubercle of lung. Magnified 800 diameters, they resembled fragments of gurr-arabic, slightly softened in water, and had the characteristic form represented in fig. 2. They were faintly yellow, and so far transparent that,

on mixing a portion of the tubercle in water, the outlines of the concretions deeper in the streams could be seen through those swimming above them.

FIG. 2.



Dr. Watts remarked, that the formation of tubercle in the bones had been doubted by many, and it is only a few years ago that the question was satisfactorily determined in the affirmative. The French and German pathologists first established the truth of its existence, but published no account of its microscopical appearances. The present case is therefore the more interesting as it further confirms the fact by the evidence exposed by the microscope.

Respecting the manner in which tubercles form in the osseous structures, he was inclined to think there would be found a series of cases, the present serving as the type, in which the morbid product is deposited in portions of cancellated structure already in a state of disease, analogous in some of its prominent features to inflammation, though differing therefrom in other particulars. The cancellated structure becomes, in these instances, deeply congested with blood, its nutrition is disturbed, it apparently has some tendency to softening, and a badly vitalized germ, in physical properties resembling coagulable lymph, is exuded into spots, and forms into tubercle, all of which may happen without the excess of heat, or manifestation of pain, usually attending inflammation. Yet this should not be regarded as any objection to the possible formation of these tubercles in another series of cases, in complication or coincidently with the most unmistakable phenomena of the inflammatory process.

WESTMINSTER HOSPITAL.

MR. ANTHONY WHITE has been elected Consulting-Surgeon; Mr. B. Phillips, Surgeon; and Mr. B. W. Holt, Assistant-Surgeon to the Westminster Hospital.

Correspondence.

ON THE PRESENCE OF THE LARVÆ OF THE COMMON FLEA IN URINE.

SIR,—I think you will consider the following case as possessing considerable interest. Perhaps you will have the kindness to allow it a place in your columns.

On the 9th of December, 1845, a boy, 14 months old, the son of a miller, was brought to me from a distant village exhibiting these symptoms: countenance pallid, its expression distressed and anxious; pulse quick; tongue white; bowels confined. Frequently, during his stay, he inclined his body forward, and pressed firmly with both hands for a considerable time just above the pubis, as if his object was to relieve some irritation about the bladder. His mother, who is a sensible woman, informed me she had observed him do this for some days, especially towards evening, when for some hours his symptoms invariably became worse. In the early part of the day he did not seem to require more than ordinary attention, excepting that he was continually endeavouring to make water. She then produced a phial of the child's urine, in which were between thirty and forty larvæ, apparently, of some insect; a few of them were swimming about in the fluid (which appeared to be their natural element) with surprising activity. By regulating its temperature, and occasionally changing the urine, I hoped to have kept them alive, but failed, one only preserving its vitality three days. Not willing to take for granted that these insects had passed per urethram, and fancying their ova might possibly have been deposited and matured about the sides of the vehicle, made use of, perhaps, for an unlimited time without thorough cleansing, I questioned her very closely, but her replies were so entirely satisfactory that my suspicions could not reasonably be any longer entertained. So, urging her to adopt every precaution, by employing various vessels, with frequent scalding and scrubbing, I dismissed my patient, prescribing for the amelioration of his present condition an alterative dose of calomel and tartarized antimony every night, and, three times a day, a mixture of Potass. Nit. Sp. Æth. Nit. Tinct. Hyosc. cum Aq. Camph. This treatment was continued till the 24th, with great improvement to the general health, though there were still voided from six to twenty of the larvæ daily. He was now ordered every eight hours Ol. Terebinth. ℥i. gradually increased to ℥xv. in mucilage, which was persevered in till Jan. 23d, 1846. At this time it was considered prudent to discontinue the turpen-

tine, as the child had become much emaciated, and several times within the last fortnight had been convulsed; he often rejected the medicine, and loathed every kind of food; he was weary, his aspect haggard, and the poor boy evidently suffered much distress, requiring, indeed, constant nursing. The larvæ are still being discharged, many alive, others dead, and some in different stages of decomposition. — Ordered, Quin. Sulph. gr. i. three times a day. A decided change for the better was speedily manifested, and, in the course of a month, the little fellow looked as though nothing had ailed him. His muscles were firm, and well covered, his spirits buoyant; all irritation of the bladder had ceased, and the insects were no longer observable in the urine, though diligently sought after for a length of time.

On the 11th of August his mother again consulted me about her son. She brought with her several larvæ, similar to the former, which had been discharged the two or three days previous. She had been led to renew her examination with special care, inasmuch as considerable constitutional disturbance had of late arisen, distinguished by symptoms very like those manifested at an early stage of his former ailment. The quinine was again prescribed, with immediate benefit, and to the present date he has continued free from complaint of every kind.

I make no comment upon this singular history, but leave the facts, simply as they presented themselves to my own observation, in the hands of your readers, to one or other of whom I should feel much indebted would he be pleased to notice the record of an example furnishing phenomena answering to the above, as I have hitherto been unable to discover any.

I enclose for your examination a few of the insects in question, and beg to remain, sir,

Your obedient servant,

HENRY J. JENKINS.

Madley, Hereford, Dec. 15, 1846.

* * We submitted the larvæ forwarded by our correspondent to the examination of a good entomologist, and he informs us that they are, beyond all doubt, the larvæ of the common flea (*Pulex Irritans*). There is a bare possibility that they might have crawled into the urethra, although it is much more probable that they fell into the urine accidentally. Fleas are never found in the inside of the human body, however well known their operations outside may be! No larvæ possess organs of reproduction; hence it is clear that there must have been some introduction of these embryo fleas, *ab extra*, into the urine. It does not seem at all probable that the female insect should have deposited its ova in the urinary passages; although the number of these larvæ said

to have been passed in the urine is somewhat surprising. The entomologist who has given us his opinion on the nature of these larvæ, says:—"Several years ago, a medical acquaintance attending a patient with disease of the kidneys, thought he had made a wonderful discovery of some species of acarus, bred, if not spontaneously produced, in the urinary apparatus, and I had some difficulty in convincing him, if he ever was convinced, that the insects he had found in the urine were no other than the *pediculus pubis*. It is a great pity that the study of zoology, especially that of the lower grades, is not made an essential in medical education; the necessity of such knowledge at the present day, when microscopic anatomy is so much patronized, is strongly felt."

We subjoin the following medical history of the common flea given by Vogel:—

"The common flea (*pulex irritans*) lives upon the skin of man, but occasionally forsakes it, particularly in the summer, and is then to be found in gardens and woods, in sand, earth, &c. The female deposits her eggs in putrid materials, manure, sawdust, decayed vegetable matter, rags, &c., sometimes, also, under the toe-nails of dirty persons. From the eggs, which have the size of a small pin's head, there are developed minute apodal larvæ, which, after ten or twelve days, become transformed into chrysales. Out of the pupæ come the perfect fleas, which then subsist as parasites on man and animals. * * The fleas of domestic animals (*pulex canis*, *fetis*, *galinae*, &c.), which likewise occur occasionally as transitory inhabitants of the human skin, are different from the true human flea."—*Pathological Anatomy, Dr. Day's translation*—a most useful book for medical practitioners.

TREATMENT OF STRANGULATED HERNIA BY COLD APPLICATIONS.

SIR,—I have read with considerable interest the remarks of your anonymous correspondent at Brighton, on the treatment of strangulated hernia, as his testimony corroborates the correctness of my own observation, that strangulated hernia is most frequently reduced when the surface of the body is cold and constricted. It has long appeared to me that the ordinary treatment of strangulated hernia is both unscientific and unsatisfactory: let us consider what are the indications to be fulfilled, towards accomplishing the reduction of the tumor. These are, to diminish the velocity of the circulation generally, and more especially to diminish the vascular congestion of the strangulated portion of the intestine, to produce a general relaxation of the muscular fibre, and also to produce a constriction of the skin and integuments; and let us now

examine how far the means usually resorted to are calculated to effect these objects. 1st.—The administration of purgative medicines; the effect of these is to increase the peristaltic action, and irritate the mucous membrane, and thus aggravate all the symptoms. 2nd.—The warm bath; the effect of this is to increase vascular action, and if it does produce faintness, it is by withdrawing the blood from the head, and concentrating it in those parts where we wish to avoid congestion. 3rd.—The tobacco injection; the first effect of this is to increase the determination to the intestinal canal, and should it eventually produce a relaxation of the muscular fibre, it may effect a reduction of this tumor; but on the other hand, should it fail in this, the prostration of the vital and nervous energies, occasioned by it, will render the success of an operation more doubtful.

The treatment which I venture to suggest is the following:—Let the patient be laid upon a hard mattress, and be covered by a shirt only, the room to be kept perfectly cool, and cold applications used to the tumor; the patient to take every half hour a solution of tartar emetic, in such doses as to produce great nausea or some vomiting, and when fairly under its influence the taxis may be used, but in a very gentle way, and not persisted in many minutes, but tried again at short intervals. Should these means fail to accomplish its reduction in four or five hours, the operation should not longer be delayed, for the great danger consists not in the operation itself, but in postponing it too long.

I remain, sir,

Your obedient servant,

EDWARD GREENHOW, M.D.

Fellow of the Royal College of Physicians,
Edinburgh.

North Shields, Dec. 17th.

REMARKS ON THE SUPPOSED ACTION OF CAMPHOR ON THE TEETH.

SIR,—In your journal (Dec. 4th, 1846,) there is a copy of a letter from Mr. Hera-path of Bristol, in which he states that after ten days experiments with camphor-water, spiritus camphoræ, &c., on whole teeth and sections of teeth, he could not discover any action on them, and he therefore infers that *the living teeth are not affected by camphor in any of the forms in which it is usually taken into the mouth*. My reasons, therefore, for troubling you arise from my agreeing with that gentleman, that there is not any *direct* action upon the teeth (by the use of this substance), yet I differ from him in his conclusion, as I believe that it is injurious to them *indirectly*.

Before entering into the data on which this opinion is based, I may mention that for

more than twenty years I have remarked that persons who have constantly used camphorated chalk, camphorated spirit, or camphor-water, had some peculiar alteration on the surface of the enamel. If I might coin a word, such teeth had a *cracky* appearance, and were quite different from those that are fissured. The surface seemed to exhibit the separate *prisms* of which the enamel is primarily composed, just as if something had been removed from between them, which had previously given continuity and an even-polished surface.

The continued use of a very diluted acid would produce some such appearance. But as the camphor does not contain an acid in any form, it would not affect the lime, as you yourself very justly observed in your note on Mr. Hera-path's letter. It may, however, be as well to mention a conjecture which was made to me by Mr. H. Schweitzer, a very talented and highly educated practical chemist of this town, viz., that probably the gelatin of the enamel was effected by the use of the *spiritus camphoræ*, for the enamel, besides looking so different from its normal condition, is extremely brittle. But I do not think the evidence thus afforded is sufficient to decide that either the camphor in solution, or in spirit, could *per se* produce the effects complained of.

Having thus spoken of the chemical theory, I proceed to offer a few remarks on what always appeared to be, probably, a more correct view of the subject, viz., that *the action of camphor is not on the teeth, but on the gums*, and that subsequently it affects the former indirectly.

The average temperature of the mouth ranges from 80° to 90° of Fahrenheit, and camphor melts at 88° of the same thermometer.* Camphor is a stimulant and narcotic, and if rubbed on the skin, produces more or less irritation, according to the sensibility of that organ. The gums, when there is a tendency to vascularity, are subject to much irritation on the application of stimuli, particularly if constantly used. They then become either inflamed and swollen, or else the absorbents are rendered more active, and their substance is gradually removed. Ultimately the necks of the teeth are exposed, and the more delicately organized *dentine* being thus unprotected, is subject to all the changes of heat and cold, and a state resembling chronic inflammation is set up, which induces in many instances *caries* of the exposed surfaces, or else from some altered condition of the dentine, the enamel of the teeth have a different colour, sometimes *horny* or *yellowish*. But even in cases not so well defined,

* This is a mistake; camphor does not melt under 300° Fahrenheit.—Ed. Gaz.

the enamel loses its opacity, and has a semi-transparent appearance, looking cracky. In this stage the teeth are very brittle. In some instances the enamel breaks away from the subjacent dentine. These statements are deduced from extensive observations on a vast number of cases, extending over a period of many years. At the time I was in practice at Hull, (from 1825 to 1829) I made a great many memoranda on the effects of the use of camphor. During my residence in that town, the late Mr. Horner of York attended there periodically, and he invariably recommended his patients to use camphorated spirits of wine. As he was an excellent dentist, and a most respectable man, he did so in all probability for its antiseptic qualities. He resided forty miles from Hull; many of his patients were in the habit of coming to me during the intervals of his visits, and from the uniform appearance of their gums, hard, pale, and receding, I did not venture to decide whether these results were attributable to the stimulating wash, or to some endemic cause, as Hull is built on a stiff alluvial deposit, and intersected and surrounded with water, so that its atmosphere is generally humid.* Since then I have visited many towns in Yorkshire, Derbyshire, Warwickshire, &c., &c., embracing dry and sandy soils, and damp and bleak localities, yet under every circumstance I have seen the cracky and horny looking teeth, whenever the *spiritus camphoræ* has been long persisted in.

Although this communication is longer than I had intended, yet I would request your attention to a few facts, which though known, are pertinent to the question under consideration.

Camphor can be dissolved in alcohol, ether, the fixed and volatile oils, in sulphuric and nitric acids (slightly diluted), &c., &c., and it is easily separated from these solutions by the addition of water. Hence when taken into the mouth, either as camphorated spirit, or camphor-water, &c., at such a temperature the camphor is separated, and precipitated on the teeth and gums in an unaltered form. If, therefore, any acid is in the mouth, as in stomach derangements, or any loose portions of food remain between the teeth capable of being acidified, the acid would dissolve the camphor in contact with the gums, acting as an irritant, and in this way cause their recession and ultimately injure the dental organs.

Some writers state that the stimulating power of camphor is very transient, and that there follows a sedative condition,

* Stomach complaints are very common from this cause: hence my doubts as to what produced the uniform appearance of the gums.

which, if purely nervous, may, by rendering the nutrient vessels of the gums inactive, account for the loss of their substance, by the continued use of this volatile and stimulant gum.

As I am now *experimentally* investigating this subject, if my results are satisfactory, I will, with your permission, communicate them to your excellent journal.

I am, sir,

Yours most respectfully,

J. L. LEVISON.

14, Devonshire Place, Brighton,
Dec. 19, 1846.

* * We shall be glad to receive the results of our correspondent's further experience on this subject.

CAUSE OF THE DECREASE OF ABORIGINES—ACQUIRED STERILITY OF NATIVE FEMALES.

SIR,—In the MEDICAL GAZETTE of Nov. 21, 1845, the question is entertained of the decrease of aborigines as assignable to an acquired sterility of the native female. An authority (Count Strzelecki) is quoted, who, after citing the received facts, that *the power of continuing the species appears to have diminished amongst aboriginal people subsequent to the introduction of xanthous races amongst them, and that the loss of the procreative power is entirely on the part of the female*, proceeds with the statement, that the sexual access of a xanthous male with an aboriginal female destroys her fertility with her own race.

That an acquired infecundity of the aboriginal female is due to the xanthous male, and dates from his advent, is true enough; and the mode in which the agency of the xanthous male is exerted is obvious enough. The acquired infecundity is due to a palpable cause well known to operate in like cases in civilized life. The consequences to female fertility of reiterating the offices of sex under conditions of promiscuity and excess, assuredly supervene independently of shades of colour in the skin, or localities of birth. The effect which promiscuous intercourse, or prostitution, has upon the fecundity of the female, has been long enough known amongst ourselves. But if the prostitute marries, *i. e.*, becomes sexually appropriated to an individual male, her infecundity terminates with the discontinuance of promiscuity. Amongst the causes operating the decline of native races, none exert so powerful an influence as the agency derived from the conditions of promiscuity and excess in the offices of sex on the part of the indigenous female. And the agency of the European (Anglo-American, &c.) male in the production of such a result, is

exercised merely as the medium of that promiscuity and excess. If we seek an illustration of the extent to which these agencies exist, we need not search beyond the recent details of the French at Tahiti. Other additional causes tending to the diminution of primordial races may be recognised. The debilitating profluvia incident to habits of promiscuous intercourse, together with the mischiefs of the infections of sex, are not without their adverse influences to fecundity; while the ultimate result of even the diminished amount of fecundity which remains is still further deteriorated by another direct cause. What the moresque-visaged, jetty-skinned offspring would be to a European female, the pale-skinned infant frequently is to its darker mother; whence the augmentation of prolicide. So much, as relates to sex, of the history of the advent of European males amongst aboriginal races, presents a detail pretty much alike in all cases. On the arrival of European males, the native females soon acquire habits of promiscuous intercourse. In conclusion, I may remark, that the experience of the West Indies with the aboriginals of Africa ought to afford some data for determining the point at issue. If the mere individual access of a white male with an aboriginal female rendered her infertile ever after with her own race, surely the Antilles ought long ago to have established the fact.

Not without a knowledge of some of the aboriginal races by personal observation, I am induced to offer these comments, and have the honour to remain, sir,

Your obedient servant,
B. HAYGARTH, M.D.

Hamilton, South Canada,
November 1846.

* * We have inserted so much of Dr. Haygarth's letter as bore upon the physiological part of the subject, in which alone our readers will feel interested.

ON THE TYPHUS FEVER IN BERKSHIRE.

SIR,—The typhus fever still continues to spread in this part of Berkshire, and I do not think I should be justified in stating that its violence had much abated.

In the village of Upton, where the fever first made its appearance, no fresh cases have occurred for the last three weeks, though the mortality amongst those previously attacked with it still continues to be great: three persons died last night from it. In the neighbouring village of Blewbury, where the fever has existed for a long time, no fresh case has occurred for a month; but in the adjacent village of Hagbourne, where the fever has also been raging for some time, there have been several fresh cases; and scattered cases continue to be

met with in the surrounding villages, showing that the disease has neither been suppressed nor confined to the locality in which it originated.

The cold weather, however, seems to have exercised a very decided influence in lessening the virulence of the diarrhoea; the diarrhoea still exists, but by no means to so great an extent as heretofore; the character, indeed, of the disease seems changed, and the most prominent feature now appears to be the great nervous depression—thus following out the true characteristics of typh in the tendency which it has to abdominal complication in warm weather and cerebral complication in cold. We do not now meet with so many cases where the tongue becomes so much loaded, or where the skin is so hot, as formerly; but there exists increased anxiety and peevishness, expressed both in the countenance and in the manner of the patient.

In a great many cases, instead of the tongue being loaded with a thick fur, it is hot, smooth, glistening, and of a preternatural red colour: in such cases experience has shewn that brandy will not be tolerated by the system.

Everything that science and humanity can dictate is being done to check the alarming prevalence of the fever: large quantities of brandy, wine, beef, and mutton, are weekly ordered by the parish surgeons among those paupers who are convalescing from the fever, whilst coals are provided and nurses hired to attend those who are still suffering with it; indeed, the condition of the paupers must be quite as good as many a poor tradesman or artizan, who, perhaps, with a large family and but scanty means, can ill afford the expense of such comforts.

The rapid convalescence of those paupers who are allowed beef and mutton, points out the truth of what I urged as one great cause of the prevalence of typhus at this season of the year; namely, the straightened circumstances of the poor, and consequent scarcity of food occasioned by the limited demand for labour when all the harvesting is finished.

In my last communication, I stated that the greater number of those attacked with the fever were young persons, and of an age varying from six to twenty years: this agrees with some deductions which have been drawn from the Registrar General's Report published in this week's *Gazette*; from which it appears, that typhus fever is more prevalent among young people in that part of the country than in London: the average age of those attacked by this fever in London being from ten to thirty years, whilst in the country the average is from five to twenty years. Observation here proves the truth of the Registrar's Report, and illustrates at

once both the accuracy and the utility of these tables.—I am, sir,

Your obedient servant,

H. C. BRENCHELEY.

Aston, near Wallingford, Berkshire,
Dec. 23rd, 1846.

RECOVERY OF AN INFANT FROM A LARGE
DOSE OF OIL OF TURPENTINE. BY E. W.
EVANS, M.D.

Mrs. B— sent for me in great haste to see her son, æt. 14 months. On my arrival, the greatest consternation prevailed, being informed by the person who came for me that the child had swallowed *four ounces* of the oil of turpentine which Mrs. B— had procured to apply for rheumatism.

The turpentine was kept in a long-necked bottle, which had been formerly used to hold milk for the use of the child. In the absence of the mother, the child procured the said bottle, and drank about four ounces of turpentine, which caused him to cough immediately, together with alarming cries, which aroused the attention of his mother, when, lo! to her astonishment, she was told that "Billy" had drunk all the turpentine.

I found him two hours after the above occurrence in a comatose state; pulse 130; tunica conjunctiva injected; pupils dilated; eyes watery; face flushed; breathing hurried, strangury; urine the smell of violets; bowels painful, particularly along the course of the spermatic vessels.

He was ordered an emetic of ipecac. Vomiting was soon excited, and briskly kept up by tepid water. The contents of the stomach had a strong odour of the turpentine. After the operation of the emetic, Aq. Ammoniac Acet. 3j., omni horâ, cold applications to the head, and flannel cloths wrung out of hot water to be constantly applied to the epigastrium. At 6 P.M. same day,—eight hours after I first saw him,—much improved; is quite lively; pulse 120; bowels loose; had passed eight small worms. Ordered Tinct. Opii, iv. and Spt. Æther Nit. gtt. v. to be given at bed-time.

On the following day, decidedly better; slept well during the night; slight pain in the bowels on pressure. Gave Ol. Ricini, 3ij. From this time he was daily recovering, except a little excitement about the brain; but in four or five days he was perfectly recovered.

I have no doubt, if the child had been neglected, he would have paid the debt of nature for this "singular debauch." However, this case may prove a warning to parents and others leaving medicine (although not ranked poisons) in the way of children: many have fallen victims by such neglect.—Richmond, C.W., Sept. 29, 1846. —*Brit. Amer. Jour. of Med. and Phys. Science*, Nov. 1846.

Medical Intelligence.

THE CHOLERA IN THE EAST.

WE have but little to report in addition to what has already been communicated respecting the cholera. The disease has broken out at Mossol, and appears to be slowly spreading through Mesopotamia. The cold had so far arrested its progress, that most of the cases were of a mild sporadic nature. From fifteen to twenty deaths had occurred in about five or six days; and out of thirty cases only one proved fatal. Eumer Effendi and Dr. Droz, physicians of Constantinople, have been commissioned by the Turkish Government to proceed to Bagdad, and draw up a report of the disease. The above particulars are derived from the last number of the *Gazette Médicale*; and here we must remark, that our French contemporary falls into one of those strange geographical blunders so common among French writers. Thus it states, "According to the English *Lancet*, the cholera has broken out in the isle of Candia (Candia), and several soldiers of the 95th regiment have already fallen victims. The Colonial Government has fled from Candia, in order to take refuge at Colombo." We need hardly remark, that the French scribe, whose geography appears to be somewhat imperfect, confounds the island of Candia (Crete), in the Mediterranean, with Candi, a large town in Ceylon, which gives its name to a kingdom of the island! According to the latest intelligence, the cholera had not reached Syria.

PERFORMANCE OF SURGICAL OPERATIONS DURING THE STATE OF NARCOTISM FROM ETHER.

SINCE we gave the first public announcement in this country of the American discovery* respecting the power of the vapour of ether to produce temporary narcotism, we have learned from an account given by Dr. Forbes that the plan has been successfully tried by Mr. Liston at the University College Hospital.

"On the 22d December, we had ourselves the satisfaction of seeing this new mode of cheating pain put in practice by a master of chirurgery on our own side of the Atlantic. In the theatre of University College Hospital, Mr. Liston amputated the thigh of a man previously narcotised by inhalation of the ether vapour. Shortly after being placed on the operating table, the patient began to inhale, and became apparently insensible in the course of two or three minutes. The operation was then

* Vol. XXXVIII. p. 1085.

commenced, and the limb was removed in what seemed to us a marvellously short space of time—certainly less than a minute; the patient remaining, during the incisions and the tying of the arteries, perfectly still and motionless. While the vessels were being secured, on being spoken to he rose partially up (still showing no signs of pain) and answered questions put to him in a slow drowsy manner. He declared to us that at no part of the operation had he felt pain, though he seemed partially conscious; he had heard some words, and felt that something was being done to his limb. He was not aware, till told that the limb was off, and when he knew it, expressed great gratification at having been saved from pain. The man seemed quite awake when removed from the operation room, and continued so. Everything has since proceeded as usual, and very favourably. Mr. Liston afterwards performed one of the minor but most painful operations of surgery—the partial removal of the nail in onychia, on a man similarly narcotized, and with precisely the same result. The patient seemed to feel no pain, and, upon rousing up after the operation, declared that he had felt none.

"In these cases the ether vapour was administered by means of an ingenious apparatus extemporaneously contrived by Mr. Squire, of Oxford Street. It consisted of the bottom part of a Nooth's Apparatus, having a glass funnel filled with sponge soaked in pure washed ether, in the upper orifice, and one of Read's flexible inhaling tubes in the lower. As the ether fell through the neck of the funnel it became vaporized, and the vapour being heavy descended to the bottom of the vase, and was thence inspired through the flexible tube. No heat was applied to the apparatus or the ether."*

The following case, quoted by Dr. Forbes from Dr. Bigelow, shows that the respiration of this vapour is sometimes attended with alarming symptoms:—

"A young man was made to inhale the vapour while an operation of limited extent, but somewhat protracted duration, was performed by Dr. Dix upon the tissues near the eye. After a good deal of coughing, the patient succeeded in inhaling the vapour, and fell asleep at the end of about ten minutes. During the succeeding two minutes the first incision was made and the patient awoke, but unconscious of pain. Desirous to be again inebriated, the tube was placed in his mouth, and retained there about 25

* No heat is required under any circumstances, as ether is most readily vaporized at common temperatures. Its vapour is one of the heaviest known, having a specific gravity of 2.56: hence it may be poured from one vessel to another, and it always collects at the lowest level.

minutes, the patient being apparently half affected, but, as he subsequently stated, unconscious. Respiration was performed, partly through the tube and partly with the mouth open. Thirty-five minutes had now elapsed, when I found the pulse suddenly diminishing in force, so much so, that I suggested the propriety of desisting. The pulse continued decreasing in force, and from 120 had fallen to 96. The respiration was very slow, the hands cold, and the patient insensible. Attention was now, of course, directed to the respiration and circulation. Cold affusions, as directed for poisoning with alcohol, were applied to the head, the ears were syringed, and ammonia presented to the nostrils and administered internally. For 15 minutes the symptoms remained stationary, when it was proposed to use active exercise, as in a state of narcotism from opium. Being lifted to his feet, the patient soon made an effort to move his limbs, and the pulse became more full, but again decreased in the sitting posture, and it was only after being compelled to walk during half an hour that the patient was able to lift his head. Complete consciousness returned only at the expiration of an hour. In this case the blood was flowing from the head, and rendered additional loss of blood unnecessary. Indeed the probable hemorrhage was previously relied on as salutary in its tendency."

The reader will find an interesting summary of what is known concerning this singular discovery in the *British and Foreign Medical Review* for January, 1846.

DEATH OF PROFESSOR BROUSSONNET.
M. BROUSSONNET, Professor of Clinical Medicine in the Faculty of Montpellier, died on the 17th December, at the age of 80. He was the oldest professor in France, and up to the last year of his life he continued to perform the duties assigned to his office.

ON Saturday, the 26th inst., at Lower Garthmyl, Montgomeryshire, in the 74th year of his age, Edward Johnes, Esq. M.D.

ROYAL COLLEGE OF SURGEONS.
THE following gentlemen were admitted Members on Friday, December 29th:—E. Archer.—W. L. Dudley.—R. B. Roscow.—J. White.—W. Morgan.—F. W. Richardson.

APOTHECARIES' HALL.
NAMES of gentlemen who passed their Examination and received Certificates to practise on Thursday, December 24, 1846.—Joshua Lever, Bolton-le-Moors.—Henry Turner Lane Rook, Barnstable.—Richard Budd Painter, Broadway, Westminster.—Robert Allen, Cartmel, Lancashire.—Francis Sibery.—Long Clawson.—James Edmund Clutterbuck, Newark Park, Gloucestershire.

Selections from Journals.

SURGERY.

GUN-SHOT WOUND OF THE BRAIN, ATTENDED WITH EXTENSIVE CRANIAL FRACTURE, AND FOLLOWED BY COMPLETE RECOVERY. BY C. G. E. FORD, ESQ., 7TH MADRAS N. I.

On the morning of the 31st January, 1845, a lad, about 15 years of age, was brought into my hospital with a gun-shot wound of the head, which he had received while pursuing the customary occupation of idle boys of collecting the balls during the practice of a regiment, for subsequent disposal in the bazaars. A chance shot must have struck him when he was under partial cover of a stone or billock, as he was not discovered till some time after the regiment had retired. He was quite insensible, and breathing ster-
torously upon admission. Examination, after shaving the head, disclosed the following amount of injury:—The ball had entered the head on a level with, and three-fourths of an inch anterior to, the summit of the right ear, and had made its escape through the left os frontis, an inch and a quarter above the centre of the eye-brow, fracturing the skull irregularly between both wounds in such a manner as to implicate and depress the right orbit. The right os frontis, over its sinus, had likewise met with a comminuted fracture. In addition to this varied fracture, one proceeded upwards and backwards, from the spot where the ball entered to the lambdoidal suture. The vertex was raised, and inclined over to the left side to such an extent as to enable the finger to be laid in the sulcus formed by the gaping margins of the fracture, especially between one wound and the other, and considerable pressure failed to approximate appreciably the edges. The right eye was completely closed by tumefaction and the sinking of the orbit; strabismus had occurred in the other, and its pupil was but a speck. No spiculæ of bone were detected in either wound. The hæmorrhage was soon checked by a cold application, which was continued, to the head; the orbit was raised to its proper position, and saline and camphor mixture administered.

On the 3d February he became in a slight degree sensible, and answered "Yes" to every question. The brain had gradually protruded, since admission, through the outlet; and on this date a mass larger than a walnut, and about half an ounce in weight, consisting of cortical and medullary substance, was excised. Pulse 130, and of moderate strength. The saline mixture and

lotion were continued, and a purgative draught administered.

On the evening of the 5th, delirium, incoherent speech, and other symptoms of cerebral inflammation, supervened. The head was freely leeches, and the sero-sanguinolent contents of a large swelling at the posterior extremity of the fracture, contiguous to the occiput, were evacuated by free incision. The whole scalp was puffy. Pulse 160, and distinctly computable. The purgative draught was repeated, and the mixture and lotion continued.

The account of the daily progress of the case is minutely given; but we can only avail ourselves of an occasional extract:—

14th.—He appeared to know what was said to him; and the left eye, which he now opened and directed to any object, seemed to possess perfect vision; made signs for the bed-pan; discharge free; delirium at night. Up to this time the patient had been in a state of delirium, and the stools and urine were passed involuntarily. The wounds were kept open by dry lint, the discharge being copious and purulent, and occasionally pieces of brain, unaccompanied by any fragments of bone.

16th.—He evinced by his acts more perception and intelligence. Discharge healthy and profuse. He took two grains of disulphate of quinine every six hours; allowed as much animal food as he wished.

17th.—Much confusion, anxiety, and irritability of manner existed to day; frequent paroxysms of incoherence during the night. Pulse 130, and small. A quarter of a grain of acetate of morphia was ordered to be taken with each dose of the quinine.

28th.—Since last date the wound at the occiput has healed, and the discharge is now slight from the other three. Constitutional irritability has been much allayed; slept and ate well; was quite idiotic, and constantly attempted to remove his bandages; opened his right eye, of which the vision is uninjured. The motor power only of the left side has been partially lost; the mouth is drawn to the right; he cannot project his tongue, and his endeavours to do so caused laughter. The doses of morphia and quinine were augmented respectively to half a grain and three grains. Nitrate of potash and nitric acid were likewise prescribed. Compresses, &c. were applied as before.

March 5.—Some dawning of intellect was perceptible to-day; has been disposed to speak; urine passed in abundance. The exposed surface of brain at the frontal wound has numerous small vessels traversing it, and it has put on the character of mucous membrane, yet without any attachment to the surrounding integuments of the forehead. Pulse large, and 100.

10th.—Has decidedly improved in his

mental capabilities, and has recognised his friends, including an officer, who came to see him, and whose name he distinctly pronounced. When any question has been put to him with a caution, he has replied sensibly. The pieces of the right os frontis have consolidated, with one exception. The space between the edges of the fracture, posterior to where the ball entered, has closed; but in no way between that and the wound of the forehead. The discharge has been trivial; two small squamæ of bone have been removed from the wound near the ear; has walked a little with assistance; no improvement in the use of his left upper and lower extremities—(this is the first allusion made to the existence of hemiplegia); they are employed at will, but feebly. Their sensibility, however, has never been involved. The new membrane remarked as covering the surface of exposed brain has thrown out exuberant granulations. Ordered to take three times a day an ounce of compound infusion of gentian, half a grain of morphia, and four drops of muriatic acid. Compresses continued.

From this last date a progressive amendment, to complete and perfect restoration of the patient's health of mind and body, took place under the treatment above noted.

On the 3d of April he was discharged from the hospital. The vertex is permanently settled to the left side; the skull has not united for about two inches over the temple, where, and at the cicatrix of the frontal wound, the pulsations of the brain can be conspicuously observed; a ridge exists where union has occurred in other parts of the fracture; the wound in front of the ear has closed with ossific matter; the right eye cannot be opened quite so widely as the left, and there exists some thickening of the orbital margin of the frontal bone; the right commissure of the mouth is but slightly retracted. His sleep is refreshing; his appetite hearty; his secretions normal; and he is fleshy and strong. His memory is tenacious, and he can summon it to any bygone event to which he has been a party with accuracy and promptitude, and he is subject to no hallucination; in short, his senses of hearing, smell, taste, sight, and touch, have not been one tittle deteriorated by the violent and extensive nature of the injury to the brain.—*Monthly Journal of Med. Science.*

GUN-SHOT WOUND OF THE BRAIN, WITHOUT SYMPTOMS FOR 26 DAYS.

DR. BLACQUIERE, of Mexico, sent the details of the following case to the *Académie de Méd.*:—

A child playing with a loaded pistol accidentally discharged it. The ball struck his younger brother, four years and a half

old, entered at one temporal region and came out at the other, and finally spent itself against the wall of the room. For six-and-twenty days after the accident the child retained the entire control of its intellectual faculties. The memory and judgment were not in the least impaired; the child was as gay as before the accident, had appetite for food, and slept tolerably well. The wounds were both situated about an inch and a half below the external commissures of the eyes. On the 26th day symptoms of cerebral inflammation appeared, and the child died on the 29th.

On examination, the anterior and superior region of the two hemispheres was found to have been traversed by the ball; the ventricles were intact; the entire sinus was the seat of suppuration; the meninges were inflamed.

M. Blacquiere considers this case to be fatal to phrenological doctrines, as the seat of several phrenological faculties was destroyed, and yet no functional lesion whatever of the brain was observed.—*Dublin Hospital Gazette.*

PATHOLOGY.

VICARIOUS DISCHARGES IN AMENORRHOEA.

AMONGST the most curious phenomena following suppression of the menses, should be ranked the hæmorrhages and other vicarious evacuations, of which a more singular example cannot be found than that related by Gardien, (*Traité d'Accouch. t. i.*) and observed at the hospital La Salpêtrière, in a girl, who, after suppression of the menses, had a periodical sanguine discharge: 1, during six months, from small ulcers in the legs; 2, for a year, from ulcers on the arms; 3, for six months, in the legs; 4, for two years, from ulcers at the angle of the eye, consequences of an erysipelas of the face; 5, for five months, from the umbilicus where another erysipelas had made its appearance; 6, for four months, from the internal malleolus of the left foot; 7, and finally, for two months, from the left ear. When the blood ceased to flow from a fixed point, there occurred attacks of epistaxis and hæmoptysis, preceded by convulsions, headaches, and dizziness. Dr. Chatelain, of Naney, in his thesis (*Essai sur la Menstruation, 1827*), speaks of a prostitute seen by M. Bonfils, at the Magdalen Society of that city, who, in consequence of derangement of menstruation, had sanguine discharges successively from the arm-pit, the nipple, the left flank, the back, the epigastrium, and the thigh. M. Chatelain likewise cites a case observed by M. Bégin, concerning a young person, whose left index finger, in consequence of amenorrhœa, swelled, and was covered by an acute herpetic eruption, from the surface of

which flowed several drops of blood, at a certain period every month. The herpes and the discharge, which lasted only three or four days, were accompanied by a disagreeable pruritus. It was not until three years later that the womb returned to its regular functions, and the health of the patient was completely re-established.

The point at which vicarious hæmorrhage takes place generally varies according to the age of the female; during youth, it is from the nose and chest; later in life, from the hæmorrhoidal vessels, the stomach, and bladder. According to Stahl, (*de mensium insol. viis.*) an indigestion or a pulmonary catarrh occurring during menstruation suffices to provoke the flux of blood towards these digestive and respiratory organs. Yet, though epistaxis, hæmatemesis, hæmoptysis, and hæmaturia, may be the most frequent of these hæmorrhages, we could cite other examples of these menstrual deviations taking place from other fixed points of the economy. Baudoin Roussorus (*Opuscul. med. de morb. mulier.*) states that a woman, having had a molar tooth extracted, had a suppression, and that a discharge of blood, which was renewed every month, was established from the alveolus of this tooth. Raymond speaks of an unmarried woman who, at the age of forty-eight, had a slight hæmorrhage once a month from the alveolus of a tooth which she had lost. The same author adds, that the discharge of blood, which lasted three days, was about three ounces per diem. J. N. Puhlin (*Observ. physic. med. lib. iij.*) relates a case of menstrual hæmorrhage, which took place from an ulcer on the foot "(probably the most frequent mode of vicarious menstruation)" Théod. Kirkring, (*Spicilegium. anat. cont. observ. anat. rar.*) cites the case of a girl who was periodically regulated from a wound in the right hand. Louis Mercatus (*De morb. mulier. lib. iv.*) mentions a woman that was not regulated, whose cheeks became of a very deep red colour every month. Finally, to the long enumeration of menstrual irregularities, reported by Haller, (*Element. physiolog. corp. human.*) Friend, (*Emmenol. cap. viij.*) and Roger Collard, (*Essai sur l'aménorrhée, p. 28.*) we will add that Baudelocque, (*Traité des accouch.*) was acquainted with a woman forty-five years old, who had never been regulated, and who was subject, during three days of every month to a diarrhoea. M. Bréra, (*Essai Clinique sur l'iode.*) mentions a woman who, in consequence of a menstrual suppression, was subject every month, for three years, to a dysenteric flux, which lasted five or six days; we will also add that we saw a similar case in a female who was in the wards of Fouquier, in 1830."—*M. Colombat De L'Isere on the Diseases of Females, Meig's Translation.*

MEDICAL JURISPRUDENCE.

CASE OF FRACTURE OF THE LEFT PARIETAL BONE, FROM THE EXPULSIVE ACTION OF THE UTERUS.

BY T. B. WHARRIE, M.D. HAMILTON.

THE body of a child having been found secretly buried near the Calder, it was reported to the Fiscal; when Mr. Jameson, surgeon at Beltshill, and I, were appointed by the sheriff to make a post-mortem examination of the body. There was handed over to us a coarse deal box, nailed up, on opening which we found the body of a female child, wrapped up in some clothes. Before proceeding to dissection, we carefully examined it, and observed no marks of injuries, except that the cranium near the posterior fontanella had a puffy feel, as if from containing extravasated blood; and, when pressure was made upon the forehead, blood issued from the right nostril. The muscular substance of the body was firm, but the cuticle in parts easily peeled off, as if from incipient putrefaction; from the weather being cold, we conjectured that two or three weeks had elapsed since delivery. The navel-cord was cut and tied, six inches of it still remaining attached to the body. The child weighed seven pounds, and measured in length twenty-one inches. The chest had a flat appearance, and there were no marks around the anus of meconium. On opening the body, we found the lungs of a dark colour, with their edges sharp, occupying but a small space in the posterior part of the chest, and not covering the heart or pericardium, and the diaphragm was arched upwards. The lungs, with the heart, being removed from the body, and placed in water, sunk to the bottom of the vessel; both lungs, previously cut into pieces, were then subjected to the same trial, and all of them immediately sunk; none of these portions had the slightest crepitous feel, nor did they emit air-bubbles when pressed; the pulmonary vessels appeared also to contain very little blood. There was no blood in the right side of the heart, but a small quantity was found in the left side, and the foramen ovale was open. We examined the mouth, windpipe, and gullet, and found all of them in a natural state. On proceeding to dissect off the integuments from the scalp, we found on the left side of the head about two teaspoonfuls of blood extravasated under the pericranium, (at that part of the head which felt puffy previous to dissection,) there was also a little blood, though smaller in quantity, effused immediately adjoining this on the right side of the head. On removing the blood on the left side, we discovered a fissure fully half an inch in length, in the

edge of the left parietal bone, close to the line of the sagittal suture, and near the posterior fontanelle. There was not the slightest depression of the bones at the seat of injury, nor, on minutely examining the scalp, by shaving off the hair, could we detect any discolouration, or the slightest mark indicating a blow. The brain was rather in a soft state; there was no extravasation of any consequence upon its surface or within its substance, but the extremities of some of the blood-vessels seemed to have given way to a trifling extent. From the size and general appearance of the child, there could be no doubt that it was born at the full period of pregnancy, and it was also quite evident it had not respired, not even feebly. The important question comes to be—What was the immediate cause of death? I suspect, simply the violent expulsive efforts of the uterus, forcing the child forward, and producing severe pressure on the cranium; or it is possible a portion of the navel cord might have fallen down and been compressed. At all events there were no marks by which the woman could be accused of infanticide, nor, as afterwards appeared, of concealment of pregnancy. The mother in her declaration said: "That she was 28 years of age, was never married but had borne three children, her last only still born, and that its birth took place about a month previous to her examination; that she was in labour from Saturday afternoon till Tuesday morning about 11 o'clock; she was very ill from Monday night, but, until that time, she was only in a lingering way, and there was no person attending her during all the time except her mother, as she had no money to pay for a doctor or midwife; that she knew her mother could do anything that was required, as she had been with women before, and herself when she had her other two children, assisted by neighbours; her mother was the only person present at the time when the child was born; that it was laid on the bed till the old woman hurried out for two neighbours." These neighbours declared they never saw the child move. She further said, that they kept the dead body till Thursday morning, having no money to pay the expense of burying it; her brother made a box, into which it was put, and her mother carried off the box, saying "she would bury it at the side of the Calder till she got 'baubees' to bury it regularly"; but in the meantime it was accidentally discovered. On the whole affair being properly investigated, and the precognition taken sent to the Crown Council, the opinion given was, that there ought to be no further proceedings.—*Monthly Journ. of Medical Sciences.*

CASE OF POISONING BY THE CHLORIDE OF ANTIMONY.

MR. BANCES, of Stourbridge, Worcester-shire, reports the following case of recovery from a large dose of the muriate of antimony:—

I was summoned on the 16th November, 1846, to A. B., a little boy, aged 7 years, who had swallowed two drachms of muriate of antimony, given by a druggist in mistake, who immediately discovered his error, and applied to me to see the child. I found him with excoriation of the mouth and fauces; skin cold and clammy; pulse small and accelerated; burning pain in the epigastrium; tumefaction of the bowels, and incessant vomiting. I went prepared with the antidotes, and lost no time in administering them. Having dissolved an ounce of magnesia in a quart of water, I made him drink every moment there was a cessation of the vomiting, until I was satisfied at last that a sufficient quantity remained to neutralize the poison. At 3 P.M. I commenced giving him the decoction of yellow cinchona, and strong tea, and continued it at intervals until 8 P.M., when there appeared much less pain in the epigastrium, although a great deal of febrile action was going on. The plan of treatment now adopted was antiphlogistic. Tea and mild diluents, and an enema were ordered, should the bowels not act soon.

17th.—Still complains of pain in the epigastric region; bowels have acted; febrile symptoms much the same.

18th.—He is evidently better; bowels acted well; febrile symptoms better. Continue antiphlogistic plan.

19th.—Continues to improve. There is less anxiety of countenance, and he is inclined for food.

20th.—He continues to go on favourably, and is out of danger.

For the next few days he continued to improve, and was soon in perfect health again. I should not omit to mention that the child had taken no food on the morning he swallowed the muriate of antimony,—a circumstance rather against the chance of recovery, after so powerful an irritant poison.—*Prov. Med. Jour.*, Dec. 23, 1846.

MATHEMATICS NOT APPLICABLE TO MEDICINE.

MORE minute and rigorous observation, has proved that vital phenomena, whether physiological, pathological, or curative, cannot be "read off" like the indications of a mathematical instrument, and that in truth they are a compound of chemical and mechanical actions, and likewise of another power or force, which is not to be estimated by mathematics, and which is

peculiarly a vital process; and we ought by this time to have ceased to expect to find a simple theory by which to explain such complex processes, were it not the tendency of the human mind to seek for certainty in theories, however shallow, rather than rest in the results of experience.—Life of Cheyne.

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Dec. 19.

BIRTHS.	DEATHS.	Aver. of 5 yrs.
Males.... 691	Males.... 616	Males.... 493
Females. 620	Females. 646	Females. 475
1311	1262	968

CAUSES OF DEATH.

Col. A. Weekly Averages of 5 Autumns; Col. B. of 5 Years.

ALL CAUSES	A.	B.
SPECIFIED CAUSES	1262	1000
1. Zymotic (or Epidemic, Endemic, Contagious) Diseases	1255	992
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	171	206
3. Brain, Spinal Marrow, Nerves, and Senses	98	104
4. Lungs, and other Organs of Respiration	181	151
5. Heart and Blood-vessels	525	313
6. Stomach, Liver, and other Organs of Digestion	52	29
7. Diseases of the Kidneys, &c.	72	70
Childbirth, Diseases of the Uterus, &c.	10	8
9. Rheumatism, Diseases of the Bones, Joints, &c.	15	11
10. Skin, Cellular Tissue, &c.	6	6
11. Old Age	3	2
12. Violence, Privation, Cold, and Intemperance	76	66
	46	27

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	5	Convulsions	55
Measles	10	Bronchitis	147
Scarlatina	19	Pneumonia	144
Whooping-cough	39	Phthisis	137
Typhus	34	Dis. of Lungs, &c.	24
Dropsy	15	Teething	5
Sudden deaths	9	Dis. Stomach, &c.	8
Hydrocephalus	29	Dis. of Liver, &c.	16
Apoplexy	32	Childbirth	10
Paralysis	25	Dis. of Uterus, &c.	5

REMARKS.—The total number of deaths was 262 above the autumnal and 294 above the annual average! This great mortality is chiefly due to diseases of the organs of respiration. In all the districts, the mortality was above the averages.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer	29.62
Thermometer	29.9
Self-registering do. max.	55.6 min. 9°
in the Thames water	37° „ 31.6

a From 12 observations daily. b Sun.

RAIN, in inches, .24: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was nearly 10° below that of the month (30.3°). The extreme hebdomadal range in the self-registering thermometer was 46.6°.

NOTICES TO CORRESPONDENTS.

NOTICE.—Complaints have reached us from various quarters of the inconvenience resulting from the occasional intermixture of the Mortuary, Meteorological tables, &c. with advertisements on the last leaf of the journal. To Medicus (Dublin) we beg to observe, that the regulations of the Stamp Office require that the journal should be printed on a single sheet; hence a cover is inadmissible. To Dr. Franz and others we may state that arrangements have been made, in respect to the new volume, to prevent the inconvenience complained of from again arising. The Mortuary tables, &c. will in future be printed in the body of the journal distinctly from the advertisements. Our desire has been to furnish as much professional information as possible in each number, and this is the reason why we have lately given 45 closely printed 8vo. pages.

The communication on a Coroner's inquest lately held in Dorsetshire, forwarded to us by Mr. C. Branston, of Chard, is reserved until next week, when it will be inserted, with some comments, for which we could not find room in the present number.

The papers of Mr. Bainbrigge, Dr. Coley, Mr. Storks, and Dr. Adams, are in the hands of the printer, and will appear if possible next week. Medicus on the Mortality of Children, &c. will be given in the following number.

Dr. John Bond, of George Street, Portman Square, writes to inform us that he has no connection whatever with a notorious personage who advertises himself under this name as a dealer in foreign diplomas. It appears that the diploma-merchant has assumed the name of a regular practitioner, in order the more effectually to conceal his real name, and throw the disgrace of his proceedings on another.

The letter of M.R.C.S. on the Operation for Fistula is unavoidably postponed until next week.

Dr. Brookes's communication on Fracture of the Femur will have early insertion. To the inquiry made by our correspondent the answer is in the negative. A proof shall be sent.

We are obliged to Dr. Franz for his Inaugural Essay, entitled *Rasoril Doctrina*.

The Memorial of the Royal College of Physicians has reached us: but too late for notice this week.

Will our Correspondents, who address us anonymously, employ less common signatures than M.R.C.S., Medicus, &c.? We frequently receive three "M.R.C.S.'s" in one week, and "Constant Readers," "Wellwishers," and "Regular Subscribers," without number. This practice renders it difficult to reply to queries.

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Lectures.

A COURSE OF LECTURES
ON
MEDICAL JURISPRUDENCE,

By ALFRED S. TAYLOR, F.R.S.

Delivered at Guy's Hospital.

LECTURE XII.

LIFE INSURANCE.—*Nature of the subject—Principles of life insurance—Mortality of the insured overrated—Conditions—Restrictions in the policy—Nature of the queries put by offices to medical men and friends—Official referees—Bad effects of the present system—Rules for medical practitioners to follow—Diseases specified in the queries—What diseases have and what have not a tendency to shorten life—Concealment of organic dyspepsia—Sudden death from latent disease—Case of Sir James Ross—Legal decisions respecting the words, "tendency to shorten life." Concealment of habits—Von Lindenau v. Desborough—What concealment is material—A question for the jury—Certificates improperly filled up—What should be stated in a medical certificate—Omission to reply to queries—Elgie's case—Alleged concealment of hernia—Case of Colonel Lyon—Case of Mrs. Ralston—Concealed diseases for which policies have been disputed.*

I PROPOSE in the present lecture to call your attention to certain questions connected with life insurance.

Life Insurance.—The subject of life insurance in a medico-legal view is almost peculiar to the medical jurisprudence of Great Britain. This arises from the extent to which insurances on lives are effected in this country, and from the peculiar nature of the provisions which regulate contracts of this description.

I do not know that I can more simply state the nature of a life insurance than in the following terms. The insurance of a life is a contract, whereby the insurer, in consideration of a certain sum of money, called a *premium*, either in a gross sum or in periodical payments, proportioned to the age, sex, profession, health, and other circumstances of the person whose life is insured, undertakes to pay to the person for whose benefit the insurance is made, a stipulated sum or an equivalent annuity, upon the death of the individual whose life is insured, whenever this event shall happen, if the insurance be for the *whole* life; or, in

case this shall happen within a certain period, if the insurance be for a limited time.

The deed by which this contract is made is called a *policy*, and it is concerning the stipulations of the policy, and the meaning to be put upon certain medical terms used in it, that litigation commonly arises. The amount of premium payable will be regulated by the *mean expectation* or duration of life of the individual; and this it is well known is not only very different at different ages, but is greater at certain periods of life in the female than in the male. One fact, however, is certain, that insurance offices have considerably underrated the probability or expectation of life among adults, and thus have derived enormous profits by levying higher premiums on the insured than a fair view of the rate of mortality would justify. The calculations of many of these offices have been hitherto based on what is called the Northampton table, which represents in an exaggerated degree the mortality, not of the class of persons who commonly effect insurances, but of the entire population. This table has been thus improperly applied to determine the mortality of men in the middle classes, holding the most durable tenure of life. Besides this, as Mr. Edmonds has shown, some of the offices have entirely excluded from insurance the sick class, out of which the greater part of the mortality indicated in the table necessarily takes place. By excluding the sick, and requiring strong medical certificates respecting the condition of healthy applicants, it happens that the mortality among the insured falls immeasurably short of that indicated by the ordinary tables of mortality from which the amount of premium is really calculated.

With respect to *profession*, a higher premium is demanded by some offices for the insurance of the lives of persons whose occupations expose them to great risk; as, for instance, of individuals actually engaged in military or naval service. The rule adopted with respect to professions in one of the best London offices is as follows:—"No extra premium is required from any person in the army or navy unless on actual service, but the assurance will be void if the party whose life is assured enter into any naval or military service whatever, unless by consent of the directors endorsed on the policy." But, above all other circumstances, the *general state of health* is likely to have a most important influence on the mean duration of life; and it is here that medical science lends its aid, 1st, by showing how far a contract may be safely entered into, when the individual is affected with disease: and 2d, by assisting the course of justice, in showing whether a diseased state

of the system really existed in the insured party, when, at the time of insurance, it may have been alleged that he was healthy and free from disease.

By improved methods of diagnosis, the existence of disease, under a proper examination, is easily made known, or it may be at once inferred from symptoms described by non-professional persons. Then, again, the influence of particular diseases in shortening life are now so much better understood than formerly, that numerous offices have of late years been especially established for the insurance of *diseased* as well as of healthy lives, the amount of premium being of course regulated by the nature of the disease and the degree to which it may have advanced.

As in the case of all civil contracts the law requires that there should be a strict compliance with the conditions, it follows that if any fraud have been committed by the insured,—if he, or those to whom he trusted in his dealings with the office, have concealed from the knowledge of the insurers, the existence of any disease under which he was at the time labouring, or any symptoms indicative of a probable attack of disease,—or, if he or they have knowingly and wilfully misrepresented or misdescribed his actual bodily condition, then the contract is void, and the amount of the premiums is forfeited. This forfeiture is a usual condition in the policy. Actions on policies of life insurance are by no means unfrequent; and, unfortunately, the medical evidence given on these occasions is of a very conflicting character. This is by no means creditable to the profession; for it either proves the existence of great bias in the witnesses, or that medical rules are devoid of all certainty, and are therefore practically useless. It will be, therefore, proper to enter into an examination of the circumstances under which we are called upon to appear. An action is never likely to be brought for the recovery of a policy, except in those cases where there is some reason to suspect that a wilful fraud has existed in the contract. Juries always regard such actions with disfavour; and while judges interpret the law very strictly, the onus of proof is entirely thrown upon the office. Hence the insured are placed in a very advantageous position. These actions in nine cases out of ten depend upon the construction put on the medical terms of the contract; hence, it is our duty to see how medical defects are likely to arise in reference to the policy. The conditions of insurance vary in different offices. I shall here give you those of one of our best London offices:—

"Persons proposing an assurance are to declare the place and date of birth; the

profession or occupation; place of residence; and age next birth-day of the person whose life is to be assured: also whether the party has had the vaccine or small-pox, or be subject to the gout, rupture, asthma, *fit* or *fits*, spitting of blood, insanity, or any other disease or disorder tending to shorten life."

Among the questions proposed are the following:—

Whether any of his relatives have died of consumption? Whether he is now, and always has been, of temperate habits of life? Whether he is employed in any naval or military service? Whether there be any other material circumstances touching his past, or present state of health, or habits of life, to which the foregoing questions do not extend? The name and residence of his usual medical attendant; also of any other medical man who, from having been consulted, is acquainted with his constitution and habits, stating how many years each has attended him. The name, residence, and profession of a friend or person well acquainted with his health and habits of living, stating how many years he has known him.

The person whose life is to be insured then signs his name to a declaration setting forth that the statements, and the answers and replies made by him to the several above-mentioned questions and requisitions, and each and every of them, is, and are true in substance and matter of fact. And that he has not omitted or concealed any fact, matter, or thing, in anywise touching or affecting his state of health, constitution, or habits of life. And he also declares that it is expressly understood and agreed between him and the said company, that the foregoing particulars, statements, and this declaration, are to be considered and taken as the basis of the contract of assurance between him and the said company for this assurance. And in case the foregoing particulars, statements, and declaration be untrue, or contain any untrue averment, the policy of assurance effected in pursuance thereof shall, in any or either of such cases, be absolutely null and void, and the premiums paid thereon shall become and be absolutely forfeited to the said company, and not be receivable or recoverable by him or his representatives.

The private medical reference contains the following questions:—

1. How long have you known — ?
2. Are you his usual medical attendant?
3. Have you been in the habit of seeing him frequently?
4. When did you see him last? What is the nature of the complaints for which you have attended him?
6. Has he ever exhibited symptoms of any functional derangement or organic disease

likely to shorten the duration of life? 7. Do you consider he is now in perfect health? 8. Has he been always and is he now sober and temperate? 9. Is he of active or sedentary habits? 10. Have his parents been healthy and long-lived, or otherwise? 11. Have any of his brothers and sisters died prematurely? 12. Do you know of any material circumstance touching his health or habits to which the foregoing questions do not extend, and if so, state them?

In order to show the extensive nature of the inquiries, and how one set of answers is made to act as a check upon another, I will here call your attention to the following list of queries which are put to private individuals acquainted with the party. This paper is to be filled up and transmitted with a proposal for life-insurance:—

State whether you have been acquainted with the person whose life is proposed to be insured, and how long. Whether you have ever known or heard of his being ill, and if so, state the time of the illness, and nature of the complaint. Whether he is at this time, to the best of your knowledge and belief, in perfect health. Whether his *habits* and manner of living are temperate and regular. (You will be pleased to direct your particular attention to this subject of inquiry.) Whether his appearance indicates health and a good constitution. Whether there is any, and what apparent defect in the formation of his person. When you last saw him. Whether he is in person thin or middle-sized, or lumpy or bloated. Whether his complexion is pale or sallow, or brown or florid. Whether he is married or single. Whether he has had any brothers or sisters. If so, how many. The number now living. The ages at which the others have died, and the cause of their decease. Ascertain and state whether his parents are living, and if not, the age at which they have died, and the causes of their death; communicate all the information you can acquire as to the health and longevity of his other relatives, also whether any of them have died of consumption, or have been subject to fits or mental derangement. Whether the persons referred to, respecting the life to be insured, are worthy of credit; and whether the medical referee is the usual medical attendant of the party. Whether you consider the life in question in all respects safe and proper to be insured by the company upon ordinary terms, and whether you recommend the same to the directors as such. Ascertain if the life have been proposed in any other office, and if so whether declined or taken. If the insurance is proposed by one party on the life of another, endeavour to learn, and state the object for which it is intended.

No one can blame the offices for acting thus rigorously. Frauds of the worst description have been frequently attempted upon them; and it is only by the adoption of a system of this kind that they can protect themselves.

The present practice of obtaining a certificate gratuitously from the medical attendant of the party proposing to insure his life is decidedly vicious, and is one great source of litigation. The responsibility of causing the life to be accepted or rejected, is thus thrown entirely upon the ordinary medical attendant of the person; for, as we shall see hereafter, an application for a certificate from a medical practitioner, who is a stranger to the party, is very likely to be treated as a fraud, and to lead to the disputing of the policy. The medical attendant of the person, it is true, is the only individual who can properly certify to the real state of health; and therefore he is generally applied to. He is expected to furnish an important certificate of this kind gratuitously; and should it happen to be unfavourable, he is exposed to the risk of losing what may probably be a lucrative portion of his practice: for I shall not suppose that any member of the profession would certify to what he knew to be untrue in order to retain a patient. The question is, whether an insurance office has a right to place a medical man in such a responsible position as this: in the issuing of a policy the insurers and insured are equally benefited; for the contract would certainly not be made except upon a supposition of reciprocal benefit. The medical attendant, without whose sanction the policy could not be properly effected, not only derives no benefit, but is actually exposed to the risk of loss for performing in an honourable and conscientious manner, an invidious duty thus forced upon them. Such a state of things ought not to be. Many recent actions have shown most clearly that it leads to great carelessness and indifference on the part of medical men in drawing up the certificates; and this produces in the end a more serious loss to the representatives of the insured than if the life had not been accepted. It must be remembered that the insurers do not suffer by any misconduct on the part of a medical man who signs such a certificate, but the representatives of the insured; hence, the offices show no disposition to amend this vicious system. It is always professed that such communications are confidential, but in more than one instance medical men have found that the contents of their certificates have become known to their patients, and have even been publicly used as evidence in courts of law. A partial remedy would be, that the medical attendant of the party

should not be called upon to sign a certificate at all, but that this should be done only by a medical referee of the office after a regular professional consultation with the medical attendant, and a proper examination of the individual. If the life were rejected, the onus of rejection would be on the proper person, the appointed referee; and, if accepted, he would be properly made responsible by the office for any gross negligence in the performance of his duties. It is true that there are few insurance-offices which have not consulting physicians and surgeons attached to them; but the weight of responsibility in contested suits, does not rest with their officers so much as with the medical attendants of the insured. In the event of your being called upon to sign a certificate of this kind, it appears to me that the plan to be adopted would be to decline the proposal, except upon a professional consultation with the medical officers appointed by the insurers. If, however, from private considerations, you feel compelled to sign the certificate it is your duty to use the greatest caution:—not merely to return answers to the formal questions on the paper, but to detail *all particulars known to you respecting the state of health of the party*. In acting otherwise, you would be doing the greatest possible injury to the representatives of the insured, and probably ruin your own reputation. There is no intermediate course: the duty must either be performed carefully, conscientiously, and honourably, or it must be declined altogether. Nothing can be more absurd than to suppose that any equivocation or concealment in the declaration can escape detection; and yet it is to be feared from the evidence which has been given in some cases, that such an idea must have existed in the mind of the medical attendants who had placed their names to the certificate.

Let us take the case, however, that this preliminary duty has been properly performed; important medical questions may arise respecting the alleged infringement of the conditions of the policy. The list of diseases specified is short. Gout, rupture, asthma, fit or fits, spitting of blood, and insanity, are the diseases actually named. With regard to *fits*, there is no knowing what the word actually means. It appears to be borrowed from the vocabulary of the ancient searchers under the bills of mortality in the reign of Charles II. Thus it may comprise apoplexy, epilepsy, paralysis, syncope, convulsions from any cause, and even asphyxia. The word is too indefinite for a certificate, and should be expunged. In the meantime, a court of law will not allow insurers to benefit by the use of ambiguous terms in the contract; and it

has therefore commonly restricted the meaning of the word fits to attacks of epilepsy. The main condition, however, is involved in the terms,—“*any other disease or disorder tending to shorten life.*” Upon the meaning of these words litigation commonly hinges, and medical opinions are required.

It is impossible to lay down any rules for determining what diseases have and what diseases have not a tendency to shorten life. Any deviation from health might be so interpreted, but the law puts a proper limitation here upon the meaning of the words, considering them to apply to those diseases which, in a medical view, are regarded as of a serious nature; and, as a general rule, likely either directly or indirectly to affect the expectation of life of any individual labouring under them. This question was brought to an issue in the case of *Watson v. Mainwaring*, in which payment of the amount of the policy was refused, because the insured had laboured at the time under what was called *organic dyspepsia*; and this was kept concealed from the insurers. It was left as a question of fact to the jury, whether the malady with which the deceased was afflicted, and of which he ultimately died, was an ordinary or organic dyspepsia at the time of the insurance. The judge (Chambre) in charging the jury, said:—“All disorders have more or less a tendency to shorten life, even the most trifling; as, for instance, corns may end in mortification: but that is not the meaning of the clause. If dyspepsia were a disorder tending to shorten life within this exception, the lives of half the members of the profession of the law would be uninsurable.” We learn, then, from this case, that a person may die from a disease under which he was labouring at the time of insurance; and yet if it be not the common course of that disease to shorten life, the representatives may recover the amount of the policy. This is an equitable interpretation of the terms: for the insurers have no right to take advantage of what must be regarded as an accidental result. From other decisions we learn that the words do not imply, in order to render the policy valid, that the insured must have been at the time free from all the seeds of disorder or latent disease. Such a condition is impossible. A man may be labouring under some insidious disease, ulceration of the stomach or intestines, for instance, leading to perforation; but if this be, as it commonly is, unknown both to himself and his medical attendant, the insurers are bound to take the risk. Lord Mansfield, in the case of *Sir James Ross*, held, that the warranty was sufficiently true, if the person were at the time in a reasonably good state of health.

A life may be a good life, although the person may be labouring under some bodily infirmity.

On the other hand, a disease tending to shorten life, must not be taken to signify only those maladies which have commonly a rapid and fatal course—as phthisis and scirrhus:—it may apply to dropsy, gout, asthma, insanity, and diseases of a chronic character. When the existence of these, or even a well-marked *tendency* to these diseases, is concealed from the insurers, or omitted to be stated through mistake, without fraudulent intention, the policy becomes void; because the risk run is really different from the risk understood and intended to be run at the time of the agreement. Such diseases are not necessarily fatal; but that is not the question, their *tendency* is to diminish the expectation of life; and, if medical evidence establish this with regard to any disorder, whether chronic or acute, the contract is at an end.

Again, the person may be labouring under no actual disease at the time of the insurance; but his *habits* may be such as to produce general injury to health, and to have a tendency to shorten life. Concealment of habits, the effect of which on health must or ought to be known to all medical men, may be just as fatal to a policy, as the concealment of a serious disease. Although they may not always be included in the questions of the company, yet the law will equitably hold that the insurers should be made acquainted with all circumstances which might reasonably affect the risk. Concealed habits of intoxication and drunkenness have thus given rise to medical questions of considerable importance; and in one remarkable instance which will be mentioned hereafter, a question arose as to whether the practice of opium eating, which had been concealed from the insurers, had or had not a tendency to shorten life.

Some recent exposures have rendered Insurance Companies much more strict in their inquiries; thus in the rules already quoted, special information is demanded upon the existence of material circumstances touching health or habits of life; and whether the person is or is not of temperate habits. Any facts bearing upon these questions, if known to the medical attendant, must, of course, be stated. The existence of such habits must be known to the individual; and the declaration which he signs is so explicit that, if concealed by him, no individual can reasonably complain of the voidance of the policy and the forfeiture of the premiums.

The case of *Von Lindenau v. Desborough* tried in the Court of King's Bench before Lord Tenterden in October 1828, shows that medical men are bound, at the risk of

invalidating the policy, to state the exact bodily condition, so far as it can be obtained by observation of the person whose life it is proposed to insure. It appears that a policy for £3208 was effected on the 16th June, 1824, in the Atlas Office, on the life of the Duke of Saxe Gotha, at the time he was residing abroad. The Duke died on the 11th February, 1825, within nine months of the time of effecting the insurance; and the payment of the amount of the policy was refused on account of material concealment of the exact condition of the insured from the insurers. It appeared in evidence that for some time prior to the insurance, the Duke had been an invalid, and that at the time it was effected, he was childish and had not spoken for two years. He had laboured under some affection of the brain,—did not improve in health after the insurance, and ultimately died from an attack of paralysis. The certificate upon which the insurance was granted, had been signed by two German physicians, Drs. Dori and Ziegler. It was to the effect, that the general health of the duke was good; but that he was “hindered” (had an impediment) in the faculty of speech, and had an affection in his left eye. It was also stated that he was perfectly free from disease or symptoms of disease. On inspection of the body there was found a tumor of large size connected with the inner table of the skull, and pressing upon the brain. This tumor was evidently of long standing, and had probably been the cause of the symptoms and death. Ten ounces of serum were found effused in the brain.

It appears that before the life was insured, an agent in Germany had informed the insurers, that the Duke had led a dissolute life, by which he had lost the use of his speech; and according to some, of his mental faculties; and on this the company required a payment of nearly double the usual premium. The defence was that there had been material concealment of the Duke's real condition. Mr. Green, who appeared as a witness for the plaintiff, considered that from the history of the case, there were no symptoms of organic disease, although the symptoms mentioned would lead to a suspicion of disease in the head. In reply to a question by Lord Tenterden, he said if, as a medical man, he had been asked by an insurance company concerning the state of a man's health, who was unwilling to move, who was subject to control of his intellect, and who had lost his speech, he would have considered it his duty to mention these circumstances. Lord Tenterden then left it to the jury whether there had been any concealment of material facts relative to the Duke's health. The plaintiff was nonsuited, and a new trial subsequently refused.

There can be no doubt that the answer here given by Mr. Green, was such as every conscientious man must have given under the circumstances. A medical witness appears in court to speak the *whole truth*, to the best of his judgment, and not to make out rightly or wrongly a particular case. No one can hesitate to admit that Drs. Dori and Ziegler gave a most improper certificate. They could not have given any opinion respecting the existence of a tumor in the brain, but they were wrong in suppressing the real state of the Duke. If they knew his real condition, their conduct was censurable; if they did not know it, they were not justified in signing the certificate at all. Because a man may enjoy at the time tolerable bodily health, facts of this kind ought not to be kept from the knowledge of the insurers. Imbecility depending on whatever cause should be always mentioned.

Some medical practitioners entertain the opinion that provided they can certify that the person is in good health at or about the time of the insurance, this is all that the insurers need know. The same opinion is commonly entertained by the insured, and the latter, after having been attended by one medical man for an illness, will apply to another, a comparative stranger, to certify to his condition of health for insurance. We must not lend ourselves to this system, which is based upon a mistake; and, if medical men would decline signing a certificate under such circumstances, they would not only save themselves from censure, but be actually conferring a benefit upon the applicant, by preventing him from obtaining a policy upon terms which on his death might render it invalid, and entail a forfeiture of the premiums. From what has already been said, you will understand that the exact state of health at the time of the insurance, does not represent the whole of the risk incurred by the company. The restoration to health, as in a case of diseased lungs for instance, may be only temporary: it may be speedily followed by phthisis, and the insurers, therefore, ought to be informed of the previous condition as well as present state of the applicant. The conditions in the declaration are so explicit upon this point, as to render it scarcely necessary to refer to the necessity for making this addition to the certificate. The disease, under which the insured had laboured, may have been of a trivial kind, and not likely to affect the risk; nevertheless the safest plan is to state it. The option will then lie with those who are to incur the risk. When facts of this kind are concealed or not stated, the question of how far they were or were not material to be laid before the insurers, is always left to the jury, who are guided in their verdict, by medical opinions,

as well as by their own common sense. Some medical witnesses have adopted the plan of signing certificates, but have declined to make any written reply to certain queries: as, for instance, the general query—Can you give any and what information respecting the *habits* of the applicant? If nothing be known concerning these, it should be so stated; if, however, the existence of any habits affecting health be known to us, we shall do an injury to the applicant and ourselves by withholding information on the subject. It may be the means of causing a heavier premium to be demanded for insurance than if the facts were known: and if this should not happen, the omission is very likely to give rise to future litigation. Thus, in the case of the *Earl of Mar*, the particulars of which I shall relate to you hereafter, the payment of the policy was refused on the ground of the Earl having been addicted to opium-eating. His medical referee replied favourably to the special questions in regard to habits, whether sedentary or active, temperate or intemperate; but he neglected to reply to the *general* question regarding habits; and on the Earl's death, it was found that he had been an opium-eater for many years before effecting the insurance. The fact might not have been known to the medical referee, but it is always better to fill in the reply affirmatively or negatively, if the certificate be signed at all, than to leave the office to draw an unfavourable inference, or to render the policy afterwards open to dispute.

In the case of a *Mrs. Elgie*, payment of the amount of the policy was refused, under the following circumstances. The insured had been for some time prior to the insurance in a delicate state of health; and in the year 1821 it was thought that the symptoms were *phthisical*. In October 1822, she was twice alarmingly ill. In December of that year, wishing to insure her life, she called in a medical friend, who, however, had not been in attendance upon her, to examine her and certify as to her state of health. It appears he examined particularly the state of her lungs and liver, and finding them, as he thought, sound, certified that the ordinary state of her health was good. On the 19th March, 1823, he gave another certificate to the same effect, upon which the insurance was effected in April 1823. Mrs. Elgie died of disease of the lungs in April 1824. Payment was refused, on the ground that there had been concealment of material facts as to the state of health of the insured. It appears that, unknown to the medical gentleman who had given the certificate, the insured had been attended between December 1822, and the 19th March, 1823, (the date of the certificate), by a medical practitioner residing in

her neighbourhood for a cough, and that she had become much emaciated. This gentleman, however, thought that there was no structural disease,—an opinion confirmed by the examination made for the certificate in March. The fact of the deceased having laboured under this illness was concealed by her from the insurers. The jury thought that although there had been concealment, it was not material, and a verdict was returned against the company. A new trial was granted, but a verdict was again returned against the company. The truth is, it is not the concealment of every slight attack of illness that will vitiate a policy; although the contract being one as it is termed *uberrima fidei*, it is in the highest degree unwise either in the insured, or if it be known to him in the medical man, signing the certificate, to conceal from the insurers any previous illness or medical attendance from another quarter. It may always be fairly urged that a knowledge of the facts might have led to the rejection of the life, or have made a difference in the amount of the premiums. One part of our duty, therefore, is, if we sign a certificate upon a careful examination, to ascertain whether the applicant has or has not been previously attended by another medical practitioner.

In a case recently tried, *strangulated Hernia* was the cause of death. The deceased had insured his life upon his own declaration and a medical certificate. In about thirteen months afterwards he died from the effect of an operation for strangulated hernia. The medical witness who signed the certificate stated at the trial that the deceased had never had hernia, and that he had not attended him for that disease. A letter was produced, however, in which he had admitted the existence of hernia in the deceased four months before his death. He denied the truth of this statement, and said the tumor which he had reduced by manipulation was varicocele. The question was, whether hernia had existed, and had been concealed from the insurers at the time when the insurance was effected. The admission in the letter carried the period of the alleged existence of hernia to only five months after the certificate was granted, whilst the deceased had positively stated in his declaration, that he was not, nor had he ever been affected with rupture, and the medical certificate was to the same effect. One witness deposed that he had been consulted by the deceased, and had found him labouring under irreducible hernia five months before he proposed to insure his life. This gentleman stated that he informed the deceased at the time that he had inguinal hernia: he tried to reduce it, but could not succeed. These facts, it was alleged, were not stated to the insurer at the time of the insurance,

as they certainly ought to have been. On the other side, two medical witnesses, including the operator, thought that the hernia was quite recent. The operator found no adhesions, and there was nothing to induce him to suppose that the hernia was of fourteen months' standing. Evidence was also given to show that the witness who deposed to the existence of inguinal hernia before the insurance, might have been mistaken in his diagnosis, and have confounded a hydrocele or a varicocele with a hernia: but admitting this to be true, the existence of a tumor of any kind in such a situation should not have been kept concealed from the company or their medical referee. The jury returned a verdict that there was no fraud, but that the deceased had had hernia at the time of effecting the insurance. A second trial was granted, and a verdict was then returned in favour of the insured.

If, under any circumstances, a jury find that the concealment is material, the consequence is matter of law, that the policy is void. It is not at all necessary that the person should die of the disease concealed. This rule was laid down by the late Lord Tenterden in the case of *Colonel Lyon*. He insured his life by two policies in May and June 1823, and died of a bilious remittent fever in October of that year. Payment was refused on the ground of misrepresentation and concealment. Colonel Lyon referred the office for a certificate of his health to a gentleman who had not attended him for three years. His answers to the printed questions were, that he had had no other medical attendant, and that he had never had "a serious illness." The medical gentleman to whom he referred certified that his life was insurable, and the policy was issued. It appeared in evidence, however, that the deceased had been attended by two other medical practitioners, from February to April 1823, for hepatitis, fever, and a determination of blood to the head. One of these employed very active treatment: he considered him to be in a dangerous state, and would not have certified him to be in health until the end of May 1823. All agreed that the deceased did not die of the disease for which he had been thus attended. Lord Tenterden stated it to be his opinion, that if a man referred to one practitioner, because he would speak well of his health; and thought that if he referred to other medical men because they would not so certify, although the insured did not die of the disease he was then afflicted with, the policy would be void. A verdict was accordingly given for the defendant.

A singular case was tried at Glasgow in 1837, in which the proceedings were inverted, compared with the usual English practice in such cases. An insurance company

brought an action against the representatives of the insured, on the issue whether the policy had not been obtained by misrepresentation and undue concealment. An insurance was effected on the life of a *Mrs. Ralston*, on the 10th December, 1833. Her own declaration was, that she was in good health, and that she was not afflicted with any disease or disorder tending to shorten life. She referred to her usual medical attendant, who certified that he had known her for ten years, and had been in the habit of attending her professionally; that she was last ill in the month of September 1833; "that her indisposition was acidity of the stomach;" that she had not to his knowledge been affected with any illness of such a nature as to influence her general health; that she was then (30th November, 1833), in perfect health, and was not subject to fits or any affection of the head, but occasionally to slight headache from acidity in the stomach. He knew of no circumstance in her business or habits of living, tending to impair her health or shorten her life. The deceased died of apoplexy on the 3d September, 1834, within nine months from the issuing of the policy.

The insurance company were about to pay the amount, when an action was brought by the medical attendant against the executors of the deceased for payment of £162 for medical attendance, &c. on *Mrs. Ralston*, from 15th September, 1833, to (two months prior to the date of the policy), to the 4th June, 1834. The referees awarded £145 to the plaintiff. His books were given in evidence, and it then appeared that between the 19th September and 3d December, 1833, (the date of the proposal for insurance), he had paid her thirty-five professional visits, most of these of long duration. It appeared from the diary, that she had been frequently bled,—her head had been shaved and blistered, and leeches had been applied to her temples. She had also had constant attendance after the insurance, and in the early part of 1834 had had several fits of epilepsy. Three medical witnesses deposed, that the declaration of deceased and the certificates given by her medical attendant did not set forth her true condition; and that there had been misrepresentation, and concealment of material facts. This also was the opinion of the judge, and a verdict was returned for the company. Although the illness prior to the insurance might have had no connexion with the death from apoplexy, it was held that the insurers ought to have been made acquainted with it.

Among the diseases upon the concealment of which policies have been most frequently disputed, may be enumerated gout, dropsy, paralysis, epilepsy, hæmoptysis,

incipient phthisis, delirium tremens:—and to this list may be added drunkenness, intemperance, and irregular habits. The consideration of this part of the subject we shall reserve until our next meeting.

Original Communications.

CASE OF

OVARIAN DROPSY,

TREATED IN THE FIRST INSTANCE BY TAPPING; SECONDLY, CURED SPONTANEOUSLY BY THE ACCIDENTAL RUPTURE OF THE CYST; AND LASTLY, ON THE DEVELOPMENT OF A NEW CYST, SUCCESSFULLY TERMINATED BY A SIMPLE MODE OF OPERATION.

By W. H. BAINBRIGGE, Esq. F.R.C.S.
Surgeon to the Northern Hospital Liverpool.*

ON the 21st of January, 1842, I was called in to see *Mrs. —*, a married lady, æt. 31, having had no children, whom I found suffering from a large tumor in the abdomen, which in size considerably exceeded that of the uterus in the ninth month of pregnancy; she complained also of a small tumor which, as she informed me, protruded externally from the vagina, causing great uneasiness, and preventing her moving about. She said that when she lay on her back, with the hips raised, it partially disappeared, and that in the act of coughing it was forced forwards, and fluctuated very perceptibly. She was in a state of great general debility and depression of spirits, much emaciated, and labouring under intense dyspnoea.

On inquiring into the history of the case, I learnt that, about eighteen months previously, she had, for the first time, observed a slight enlargement of the left side, which had gone on gradually increasing from that time to the present. Simultaneously with this she had felt occasional sickness, her menstruation had altogether ceased, and there was a well-marked areola around each nipple. Her medical attendant had led her to believe that she was in a state of pregnancy, and would shortly be confined. He had also, about a week before, in consultation with another medical gentleman, decided that the small tumor in the vagina should be removed

* Communicated by the author.

by ligature. To this she demurred; and therefore desired my opinion.

On examining the larger, or abdominal tumor, I found it fluctuated very freely, from which circumstance, and its general appearance, together with the symptoms, &c., I concluded it to be a large unilocular ovarian cyst. The smaller, or vaginal tumor, I did not then examine, but, from the patient's own description, it struck me that it was merely a portion of one and the same ovarian sac, pushing forward the vagina, and protruding externally. My opinion, therefore, being opposed to that which she had previously received, and the case being one of extreme gravity, I desired a consultation. In consequence, Mr. Bickersteth kindly met me, and, after a careful examination of both the larger and the smaller tumor, we agreed that the facts of her case were as I had supposed. We ascertained that the abdominal tumor was a freely fluctuating cyst, and the patient being laid on her left side, we felt a small tumor, of about the size of an orange, protruding an inch and a half, or thereabouts, externally from the vagina; it fluctuated freely, and was easily pushed forwards and outwards by the act of coughing. Having accordingly pronounced it to be a case of unilocular ovarian dropsy, of which both tumors were but component parts, the operation for the removal of the smaller tumor by ligature, as recommended antecedently to my visit, was abandoned.

From the extreme anxiety of the lady to have the benefit of further advice, and indeed at my own recommendation also, she proceeded to London, and consulted Sir Charles Clarke, who entirely coincided with me in his view of the case, and recommended the operation of tapping, which was accordingly performed by Sir Benjamin Brodie. An opening was made about an inch and a half below the umbilicus, in the median line, and about 25 pints of sero-sanguineous fluid, exhibiting the usual characteristics of the contents of an ovarian cyst, were drawn off. The result was, that both tumors immediately disappeared.

She now progressed favourably, somewhat improving in her general health, the only treatment she received being that of tonic combined with mild aperient medicines.

Both tumors, however, gradually reappeared, and increased, till at length her distress and inconvenience again became so extreme that it was found necessary to have recourse to the operation of tapping a second time on the 16th of November of the same year, about nine months from the first operation.

Subsequently to this period, on the gradual return of the disease, a physician of eminence was called in, who, with a view to arrest its progress, thought it well to try the hydriodate of potass, and afterwards electro-galvanism, neither of which, however, produced any apparent beneficial effect. The enlargement of the abdomen again proceeding as before, the patient's moral courage at length began to give way, and, from a morbid anxiety to conceal her state from her friends, and avoid their marked notice and unwelcome allusions, she adopted the singular expedient of compressing and flattening the tumor anteriorly, by means of a piece of wood placed on the abdomen, and firmly secured by a bandage. This contrivance, while it diminished the prominence of the tumor anteriorly, increased it in the vagina, and necessarily produced distension upwards and laterally, causing great distress, and an aggravated state of dyspnoea. I repeatedly and urgently entreated her to desist from this practice, but all my remonstrances were of no avail. This brings me to an important epoch in the history of the case.

On the 6th of May, 1843, six months after the second operation, I was suddenly sent for, and found the patient in excruciating agony, arising from acute pain in the abdomen: she was drawn double, her countenance was anxious, her pulse low, quick, and flickering. I at once perceived she was attacked with acute peritonitis, and immediately ordered leeches and warm fomentations to be applied to the abdomen. Calomel and opium, in conjunction with salines, were given every six hours.

May 7th.—Somewhat better; pain slightly diminished; countenance more tranquil; pulse not so flickering; tongue furred; bowels constipated.—Castor-oil and an enema were ordered: the calomel and opium to be continued.

On the evening of the same day the bowels had been evacuated; the pain

was still somewhat on the decrease : on the whole, she felt more comfortable.

From this date she progressed favourably until the 20th, when she was so much better as to be able to go to London to see Sir C. Clarke, which I had recommended her to do in consequence of her own extreme anxiety respecting her state, as the tumors had rapidly enlarged since the second operation, and with a view to reconcile her to the postponement of a third operation to the latest possible period—a course which I was confident would be approved of and recommended by Sir Charles, and in which I was not mistaken ; for, having met him in consultation on the 4th of June, he entirely coincided with me in the propriety of postponement. On her return home, a few days after, she ceased to feel any pain, and it was observed that there was a gradual decrease in the size of the abdomen. This gratifying appearance soon proved to be real, for in about a fortnight from her return home, both the abdominal and vaginal tumors had completely subsided. In the meantime she had been passing a large, unusual, quantity of urine.

From this period to May 1844, she rapidly improved, and enjoyed apparent good health.

About this time, apprehensive that another tumor was forming, she consulted me anew. On examination, I found this to be the case ; and, from the position of the tumor, my first impression was, that it had commenced on the *right side**.

This new tumor slowly developed itself, as that on the left had formerly done. It assumed the form of a large fluctuating abdominal tumor, like that of its predecessor, with this difference that it was unaccompanied by any decided vaginal protrusion. About the commencement of 1846 it had enlarged so considerably that she became anxious for something to be done. Allusions were made by her to the major operation, recently performed by Mr. Clay of Manchester, and others.

I directed my serious attention to the subject, and after having carefully considered the danger, and the unsatisfactory results both of this and the

other operations recently in use for the cure of this most formidable disease, I decided on proposing the following plan of operation ; the details of which I communicated to Mr. Bickersteth, who coincided with me in the propriety of attempting it, and to which my patient consented. My plan was this :—to make an incision through the abdominal parietes about three inches in length ; draw out a portion of the cyst, say about one half ; then evacuate the contents, carefully guarding against any escape of the fluid into the peritoneal cavity ; next remove the outer portion of the cyst and bring the edges of the remaining part into apposition with the lips of the external wound, with a view to their union by adhesive inflammation, and thus form an opening into the cyst from without, by which its future contents might readily escape.

On the 14th of March, 1846, the operation, as described below, was performed by myself in the presence of Mr. Bickersteth and Dr. Carson. The patient was placed in a semi-erect position on the edge of the bed. An incision about three inches in length was made in the median line, two inches below the umbilicus, extending through the parietes, and laying bare the external surface of the cyst. On endeavouring to draw out the cyst in order to remove a portion, as originally intended, I found that such extensive adhesions existed as to render this part of my plan impracticable, which was perhaps in one sense a favourable circumstance, inasmuch as it prevented any escape of fluid into the peritoneal cavity. Nothing remained, therefore, but to open the cyst, evacuate its contents, and insert a plug so as to prevent union of the edges of the wound, and closure of the opening. About 25 pints of a sero-sanguineous fluid, similar to that in the former tumor, were drawn off.

During the four following days there was constant discharge of a similar fluid from the interior of the cyst ; on the fifth day it became purulent, thence gradually assumed the character of pure pus, and so continued up to May, amounting on an average to about 8 ounces in the 24 hours. From this period it began to decrease ; meanwhile no bad symptoms appeared. The patient merely laboured under the or-

* This may be still a matter of question.

dinary effects of the general debility consequent on such a discharge.

It should here be stated that, for a month after the operation, stimulant and astringent injections were occasionally used for the purpose of setting up new action and stopping the discharge, but without producing any apparent good effect.

Early in June the discharge had so far diminished that the lady was able to undertake a tour through the country, which occupied her until the end of August. On her return home I found the tumor had entirely disappeared, and there remained a small fistulous opening in the wound communicating with the interior of the cyst, and of the size of a common quill, from which scarcely half an ounce of pus was discharging daily. Her general health had been improving during this time, and is now, I am happy to state, perfectly re-established.

She is enabled to take her usual exercise, both on foot and horseback, and experiences no inconvenience beyond that of the daily dressing. The catamenia have never re-appeared in their natural course, but a vicarious bloody discharge from the wound has been established; it generally lasts about three days, accompanied with some pain, and returns at the natural period.

In reviewing this interesting and instructive case, there are certain points which cannot fail to attract attention. The general predisposition to ovarian disease which appears to have existed in the patient ought to be noticed. When radically cured in the left side it reappears after the lapse of a definite though inconsiderable interval.

Another point worthy of remark, obviously suggested by the brief previous history of the case, is the extreme importance of careful examination, before pronouncing our diagnosis, or recommending serious operations. I might here ask, what would have been the result had the ligature been applied as proposed?

The next important feature is the accidental cure of the disease in the left side. There can be little doubt that the acute peritonitis under which I found the patient suffering, in May 1843, had supervened on the rupture

of the ovarian cyst, and the effusion of its contents into the peritoneal cavity; and that this rupture was occasioned by the violent pressure exercised upon the cyst by the piece of wood which the patient had employed to compress and flatten the tumor. The subsequent absorption of the effused fluid, and the sudden and total disappearance of the tumor, are facts deserving attention.

A question here incidentally arises, whether, and how far, pressure of a somewhat similar nature might be advantageously employed in such cases and under such circumstances. Many of our most valuable hints have been derived from accidents. I shall now briefly advert to my original plan of operation, and to the operation itself. I have already stated, in a few words, my grounds of objection to the modes of operation, &c. of late in use for the cure of this disease, some of which apply to that which I have proposed. By establishing a direct communication from without, with the interior of the cyst, I had in view, not only to form an exit for the discharge of the secretion that might subsequently collect in the cyst, but also to set up a new action, and change the nature of the secretion, hoping thereby to effect a radical cure of the disease. By excision of a portion of the cyst, I proposed, firstly, to diminish the superficial extent of the secreting surface, and thus proportionally reduce the quantity of the subsequent discharge; and secondly, to prevent the escape of the latter into the peritoneal cavity by uniting the edges of the cyst to those of the external wound,—suggestions for which I am indebted to my friend Dr. Carson. The former object I attained, but was defeated in the latter in the adhesions I met with. The case, notwithstanding, terminated happily.

When compared with the modes of operation now in use, for the eradication of ovarian disease, the plan I have described will, I trust, recommend itself not only by its superior advantages, but also by the absence of the grave disadvantages under which they confessedly labour: (the latter remark applies with peculiar significance to the major operation). It requires no complex preparations or adjuncts; it is perfectly simple and easily performed. It can scarcely be said that there is

any danger attending it, if conducted with ordinary skill and care, while the prospects of ultimate success are in the highest degree encouraging both to the patient and practitioner. When its simplicity and safety, therefore, are taken into account, together with the great probability of its not merely affording temporary relief, but accomplishing a radical cure, it will, I hope, be adopted by my medical brethren in preference to those from which such fearful mortality, or, at least, mere temporary relief, have hitherto resulted. The annals of surgery supply us with many cases in which this operation has been performed safely and successfully*; and others in which nature herself has effected a cure by analogous means: with others, again, in which it has been done by accident, and ended well. With this threefold body of evidence in its favour, it has much surprised me that of late it seems to have fallen into complete neglect, and is scarcely so much as talked of; while at the same time a formidable and dangerous operation has frequently been resorted to, and seems to be quite in the ascendant. Is it the "pomp and circumstance" of a grand display of what nature may be able to bear and art to achieve, though made at a great risk, and alarming sacrifice of life, that has led astray the sober judgment of some members of the profession, and dazzled the imagination of others?

The boast of modern surgery is to simplify, and to imitate nature as closely as possible. Why should it not be verified in this particular department?

A further question naturally suggests itself, in conclusion, respecting the continuance of the discharge. Does nature still maintain it, in order to suppress or extinguish the apparent, or rather obvious predisposition, to ovarian disease which has for so many years displayed itself in this case?

I shall feel only too happy if, in bringing this case prominently forward, and making these remarks, I succeed in recalling attention to an operation that has singularly fallen into unmerited obscurity, convinced that its general adoption will rescue many a victim that may otherwise succumb either to the disease or the scalpel.

* The ratio of mortality may be grossly stated at 1 in 15 or 16.

I fear I have transgressed the limits ordinarily prescribed to cases of this class, but I trust that the importance of the present one, and the necessity imposed upon me to give its leading details, so as to render it intelligible and instructive, will be accepted as my apology for occupying so much valuable space,

Everton, Liverpool, Dec. 4th, 1846.

CASE OF

COMPOUND FRACTURE OF THE EXTERNAL CONDYLE OF THE FEMUR EXTENDING INTO THE JOINT,

COMPLICATED WITH FRACTURE OF THE
LOWER THIRD OF THE SAME BONE :
RECOVERY WITHOUT AMPUTATION.

By W. PHILPOT BROOKES, M.D.

M.R.C.S. Eng.

Surgeon to the General Hospital and Dispensary
Cheltenham.

MASTER HENRY TIMMS, æt. 11½ years, of a pale exsanguineous temperament: he has enjoyed uninterrupted good health for the last six years, but before that time was of a very sickly, delicate habit of body.

While getting up behind a coach on Saturday, June 28, 1845, fell, and the left leg got entangled between the spokes of the hind wheel: he was immediately carried home, and my attendance required. On examination of the limb, I found a compound fracture of the thigh, extending into the popliteal space; the lower end of the femur was protruding, and sufficient hæmorrhage had taken place to cause collapse. On minutely examining the injury, I found the capsular ligament of the knee-joint ruptured, and an oblique fracture through the external condyle of the femur, so evident that both Mr. Fricker (who kindly gave me his assistance) and myself could pass our finger between it and the joint; there was also a transverse fracture of the lower third of the femur above the joint; the popliteal artery remained unimpaired; the joint was very much distorted. Under these circumstances, and the boy having rallied, immediate amputation was advised, but the father strongly objected, and would not give his consent to this measure. Accord-

ingly the wound in the popliteal space was dressed with wet lint, the limb put in a natural position, and a straight splint, extending from the hip down to the ankle, was placed on the outside of the limb, and a short concave one on the inside, lightly bandaged. Constant cold applications kept to the knee-joint, low diet, and 15 drops of Battley's Sedative, with Camphor Mixture given at bed-time. Pulse in the evening was 90, and the boy much more tranquil than could have been expected.

June 29th, 12 A.M.—Slept well; pulse 80; tongue slightly furred: is moderately tranquil.—Repeat the draught at bed-time. Bowels not opened.—Ordered him half an ounce of castor-oil directly. 8 P.M.—Oil not operated; pulse 90, and quick.

30th, A.M.—The oil had not any action on the bowels; is very restless; pulse 120. Thigh dressed: very little discharge, but escape of synovia, mixed with blood, which continues slightly, and has done so since the accident. The knee is much more swollen, the patella thrown out of place, and we can, on passing the finger into the wound, plainly feel between the external condyle of the femur and the head of the tibia. Tongue harsh and furred. 10 P.M.—Bowels opened twice; tongue white, but much moister than this morning; pulse varied during the day from 120 to 90, which it is now; sleeps a good deal, and is very much more tranquil than he was.

July 1st.—Tongue clean; bowels not opened; pulse 80 to 90; knee less tense; discharge from it increases; is very tranquil; slept well last night. Has been kept on low diet up to to-day, when he took an egg.—Continue the cold application to the joint.

2d.—Going on well. Bowels not being opened, I gave him more oil. Pulse 80.—The anodyne at bed-time. 10 P.M.—Had great pain in the limb this evening, and the pulse rose to 110. 3d.—Bowels not been acted upon. The oil repeated. The leg was dressed to-day; it discharges much.—To take a more nourishing diet. A splint was also placed on the under side of the thigh.

4th.—Bowels well opened; going on well in every respect.

6th.—Limb dressed to-day. The wound looks very healthy; discharges

less; knee less swollen, and is going on well.

10th.—Has gone on very well since last report; swelling gradually subsiding. Takes a full generous diet.

23d.—Continued to go on well. Wound nearly healed; discharges but very little, and pain only on moving it to dress it.

REMARKS.—He continued to go on well, and the splints were taken off at the end of six weeks. The bone was united, wound had healed, and had slight motion in the knee-joint. About a fortnight after the splints were taken off, I found the knee swell, and applied pasteboard splints, with tincture of iodine painted over the joint every day. A small piece of bone is working out at the popliteal space; general health very good; is kept quite quiet in bed, and cold water douche used every morning. About two months after the splints were left off, a piece of bone, nearly an inch long, worked out of the popliteal space, and after that time all went on well.

I have been in the constant habit of seeing this lad twice a week, or oftener, up to the present time. He has now got very good motion of the joint, in fact can bend the leg completely on the thigh; he can also support the whole weight of the body on the injured limb, and walks very well with the assistance of a stick. I have no hesitation in stating he will entirely recover the use of the joint.

On reviewing this case, the whole credit of allowing the limb to have a chance of recovery must be given to the father of the boy, for he was strongly urged to allow amputation, but would not do so, and stated "the youth of the patient may give him some chance of recovery;" and so it turns out it did. Should another similar case come under my notice, I shall certainly (having a due regard for the age of my patient) be inclined to endeavour to save the limb before I urge amputation, as nature, combined with proper treatment, will do much for us with these young subjects.

I cannot find any case on record where the injury was so extensive as this one, and recovery took place; in fact, the only one at all approaching it is in a patient of the name of Dixon, reported in Sir A. Cooper's work on Fractures, &c. I have therefore given

it more fully than perhaps may be deemed quite needful.

Albion House, Cheltenham,
Dec. 29, 1846.

ON THE
EFFECTS OF ACETATE OF LEAD
AND OPIUM IN HÆMORRHAGIC
DIATHESIS.

By GEORGE HILL ADAMS, M.D.

ABOUT ten years ago I was called to visit a lad who had been attacked with violent vomiting of blood, which came on each night about 8 o'clock, and so consecutively for four or five nights, allowing a regular diurnal interval between each attack. On examination, I found a large swelling in the neck, appearing likely to become a deep-seated abscess, beside of the trachea, and under the right sterno-cleido-mastoideus, involving a considerable amount of the neck. The patient complained of throbbing, pain, heat, distension, and so forth, indicating plainly inflammation, and, to all appearance, approaching abscess. I ordered poultices, &c., together with dilute sulphuric acid occasionally internally, the former to hasten the stage of supuration, and the latter to counteract what at first sight appeared hæmatemesis: that night, however, a repetition of the vomiting of blood occurred even to a larger extent, and the next day I suspected some connection between the enlarged arterial capillaries engaged in the tumified part and the œsophagus and its mucous membrane, whereby the small vessels of that membrane having become surcharged and distended, were allowing the blood to ooze guttatim into the œsophagus, and so trickle down into the stomach, until each night it had increased to so large a quantity that the stomach was compelled to relieve itself. The lad was reduced very low, and, fearing to raise him in bed in his very exhausted state so as to obtain an inspection of the throat, I requested a Professor of Surgery to accompany me. Finding that we could discover nothing definite by examination, he thought the treatment I had previously adopted should be continued; but that night the blood was thrown up again

more than ever, and the poor fellow remained in a fainting state long afterwards.

I then found that I must do something else, or the patient's life would very soon be lost; and I recollected the happy and almost magical effects of Acet. Plumbi and Opium often in menorrhagia, when nothing else seemed to have any prospect of saving life; and although I then never had seen or known any of those medicines being used in any other hæmorrhage, I nevertheless concluded, that, if so good in menorrhagia, it surely would be equally potent and beneficial in hæmatemesis, and forthwith I ordered half a grain of opium, and a grain and a half of acetate of lead, every hour for a couple of hours, and to be continued at intervals of two hours for that evening. The result corresponded with my most sanguine anticipations, the lad never having afterwards the slightest appearance of hæmorrhage, and the swelling rapidly disappeared. I had, of course, laid aside the warm applications.

This case I had often purposed for years to have published, for I think it was not only interesting, but the application of those medicines in such a case new and valuable. A few months since, I had a case somewhat similar, but more, if possible, indicating the hæmorrhagic diathesis, where the patient had been suffering for some time from what she feared to be rheumatic inflammation of the jaw, and some appearance of gum-boil; this was slightly scarified pretty close to the teeth, but, to our astonishment, a most profuse bleeding, after some time, commenced from this trifling scratch (and that after having all but ceased). I ordered cold bathing to the face, neck, &c, then pledgets dipped in Sulph. Cupri, and I even twice applied nitrate of silver, but all of no service; and without any farther delay, I ordered a few pills of acetate of lead and opium, one every hour, &c. as in former case, and reapplied a pledget saturated with solution of sulphate of copper, keeping it firmly pressed down with my own finger for nearly two hours, and directing the patient to continue the pressure some time longer, and by those means a complete arrest was put to the bleeding, and the case ended most happily.

Now, one cause that has induced me

to write these cases was the seeing lately a statement something similar from Manchester, but where a very palpable error was committed, and that was waiting and waiting from day to day, in fact, far too long a time, before those medicines were prescribed; for if it is plain that the diathesis exist, I would premise that not an hour should be lost, for by using those means the blood of the patient is saved, and if allowed to be lost, whatever may be lost of good blood will be more or less replaced pretty soon by watery fluids, so that if we wait an unnecessary length of time, the Acet. Plumbi will, to a great extent, have a mere watery fluid to meet and act upon in the vessels of the circulation; and how then can it be so well expected to produce its wonderful effects, or rather how can it act at all, when compared with the albuminous and fibrinous constituents of the blood in the normal state of the fluid; at least, before much is lost and replaced by water?

The action of the Acetas Plumbi on the constituents of the blood, as also probably on the coats of the vessels, even to the most minute ramifications of the capillaries, is perhaps one of the most extraordinary chemical phenomena which we encounter in the whole range of therapeutics. How such a minute quantity as a grain of this salt should affect, chemically and vitally, not only the entire volume of our circulating fluid, but most probably, also, the albumen and fibrine in the coats of all the blood-vessels in the system, not even excluding a single capillary in the vast extent of the entire periphery. I need scarcely add, how invaluable this combination of medicines will be always found, especially in large densely inhabited cities, where the hæmorrhagic diathesis is almost only to be seen, as it is comparatively rare in country places. There are few medical men who have not witnessed the difficulties of stopping leech-bites, &c., in this vast metropolis, even as related by the late Dr. James Johnson and Sir Astley Cooper; therefore this may be found serviceable in many cases, along with pressure, &c., or where, perhaps, no pressure could be at all applied, as in my first case stated above.

Upper Berkeley Street, West.
Dec. 2, 1846.

REMARKS ON THE FEVER OF NOTTINGHAM AND THE NEIGHBOURHOOD,

THAT PREVAILED IN SUMMER AND AUTUMN 1846, AND WAS IDENTICAL WITH THE "FIEVRE TYPHOIDE" OF PARIS, AND DIFFERED FROM THE USUAL WINTER TYPHUS OF EDINBURGH AND DUBLIN.

By FRANCIS SIBSON, Esq.

Resident Surgeon, General Hospital, near Nottingham.

DURING the last five months, from the beginning of July to the 29th of December, 223 patients with fever were admitted into the General Hospital near Nottingham, and 676 fever cases were treated as out-patients. This number of fever cases, 899 in six months, is enormous, especially if contrasted with the number of cases usually admitted into the institution. The total number of fever cases during the years ending Feb. 28th, 1844, 1845, and 1846, being respectively only 54, 43, and 36.

It is not my intention to give a scientific analysis of this fever; indeed, I want the materials for so doing. My aim is to give a general account of the symptoms and pathology of the fever, its causes, the varying phases of it as the weather and the *locale* of the fever changed, and its analogy and contrasts to the epidemic fevers of other places and seasons.

The fever was characterised by abdominal disturbance; a want of energy in the nervous system, sensation being blunted, the muscular actions enfeebled, and the intelligence either torpid or disturbed; and by a feeble, often quick pulse. It was ushered in by a succession of rigors, each followed by heat of surface, ending usually in perspiration. Uneasiness and disturbance of the abdomen, and diarrhœa, were almost universal. The tongue varied much; it was in some cases moist and pale, or furred, being always more red and clean at the margins; in others its surface was red and glazed, either moist and of a shining smoothness, or dry as if varnished, being often marked by shallow fissures; in other cases, and these were of the worst class, the tongue was dry, fissured, coated with a dark brown

film; in such cases sordes collected on the teeth.

The countenance always bore the stamp of the disease, having the expression in every feature of blunted sensation, feeble nervous energy, and sluggish intellect. The lips quivered; the cheeks, nostrils, and eyelids, were tremulous; the tongue was protruded slowly, and was in motion over the whole surface. The eyes were usually dim, and the hearing dull; the limbs were feeble, and the movements slow. Headache was frequent, and thirst, though present, was not extreme.

A great proportion of the cases were mild: some of them, indeed, ephemeral; but they all partook of the same general type. In all of them there was abdominal derangement.

The worst cases were marked by extreme debility, partial unconsciousness, muttering delirium, great abdominal distension, and profuse diarrhoea—often of dark, offensive, sometimes of bloody stools. Certain of the cases—and these, which were of the most intractable sort, were fortunately but few in number—lay coiled up, almost insensible, uttering constantly, night and day, at each expiration, a loud, dismal, crying moan. The pupils were dilated. The abdomen was distended; diarrhoea alternated with constipation. On emptying the bowels, these cases were, for a short time, less noisy; but these intermissions were short and imperfect. Out of four such cases—they were boys—one recovered after keeping up incessant noisy cries for about a fortnight. Opium and henbane in repeated doses, combined with other treatment, seemed to silence the cries of this boy. In these cases there were ulcerations, though to no unusual extent, of the aggregate glands in the ileum. Vomiting, epistaxis, and bleeding from the gums, cough with bronchitis, hoarseness, loss of voice, and redness of the fauces, were frequent complications. One poor fellow could scarcely breathe for oedema of the epiglottis and glottis.

Of the 223 cases admitted, 19 have proved fatal. In 18 of these that I examined, the Peyer's follicles in the ileum were enlarged in 17, in 13 of which there were ulcerated patches of greater or less extent. In three of

these cases there were ulcers on the mucous coat of the colon; and in one remaining case there were ulcers on the colon, although the Peyer's follicles appeared healthy. In many of these it was noticed that the mesenteric glands were much enlarged and softened.

The spleen was usually normal in size and consistence.

The lungs were gorged and solid at the posterior part in many of the cases, and in four there were patches of pneumonia.

The brain was normal in the majority of the examined cases, even when the head symptoms had been severe. In a few the brain was congested; in others there was slight subarachnoid effusion; and in one case, in whom there was a subdued maniacal delirium, with strabismus, the membranes were unusually dry, and the arachnoid at the base of the brain was thickened and opaque.

In one case there was pleuritis, with a thick, soft, new membrane over the lower lobe of the right lung. In another case there was pleuritis combined with pneumonia of the right lung.

Two women died after abortion; in one peritonitis was present.

During the first two months nearly the whole of the cases came from two circumscribed districts in two large populous manufacturing villages within a mile of Nottingham. These districts Dr. Hutchinson and Dr. J. C. Williams, physicians to the hospital, and myself, examined with great care. In one of these districts, New Lenton, the fever prevailed in certain yards in which the privies were open to the rain and sun, and in certain streets that were neither paved nor Macadamized, and in which the channels were a succession of small filthy pools. Adjoining yards, in which the privies were closed, and an adjoining clean well-drained street, were quite free from fever. This district was on a rising ground, being about sixty feet above the level of the flat of the river Leen in the meadows of which river were fetid, half stagnant, open ditches. These ditches were polluted by the decomposing vegetable refuse from some starch works, and by offensive animal matter from a skin yard. Close to these filthy ditches fever cases prevailed, as I was informed by Dr. Hutchinson and Dr. Williams. In one yard

in Radford, the other district alluded to, in which were five privies, the filth from one of which ran into the yard, out of 40 inhabitants 21 were attacked with fever.

In no previous summer to this, for many years, has the heat been so excessive and so early. My friend Mr. E. J. Lowe, whose meteorological observations are published in the quarterly returns from the Registrar-General of Deaths, has favoured me with his accurate meteorological observations for the past summer. From these I find that, during the greater part of June, the mean temperature was from 7 to 14 degrees above the usual mean. After falling below the mean for a month, the temperature rose again above it at the end of July; fell below the mean in the middle of August; was above it by 7 or 8 degrees during the whole of September; and was considerably below the mean during the whole of October.

The excessive heat of June acted to decompose the animal and vegetable matter in the open privies, and in the unformed streets of New Lenton and Radford. Both of the infected districts were offensive to the smell. Diarrhoea prevailed during the month of June, and was the immediate precursor of the fever. The open privies were, in many parts of the districts, the manifest foci of the fever. Sir John Pringle, in his *Observations on the Diseases of the Army*, says, speaking of dysentery in the camp:—"Of this the chief *fomes* seemed to be the foul straw and the privies: for as soon as we left that ground the sickness visibly abated." (p. 27.) At p. 103, he states, that "human excrement lying about the camp in hot weather, when the dysentery is frequent," is one of the chief causes of sickness. Elsewhere, p. 353, after showing that ordinary fæces are less, if at all, infectious, owing to the antiseptic action of urine, he says, "The case is different in putrid diseases, and especially in the dysentery, where the fæces are highly corrupted and contagious." It cannot be questioned that the diarrhoeal fæces that abounded in the open privies immediately before the access of the fever would pollute the atmosphere, when acted upon by the sun, much more than healthy fæces.

It was delightful to see the rapidity

with which bad cases rallied, when removed from the polluted districts to the wards of the hospital. As Dr. Cheyne says*, "the accommodation and regimen of the house produce a favourable change in the complexion of the disease in a single night." Dr. Pritchard shews how, in the same epidemic, those cases of fever admitted into the large airy wards of one hospital improved much more than those admitted into the small close wards of another hospital. The over-crowded filthy hospitals of conquered armies, crowded and filthy gaols and ships, have ever been generators of fever, especially in hot seasons.

We noticed that the improvement in our cases, so happy at first when they were removed from the infected districts to our wards, was less marked after many cases had been admitted. We found that improving cases often relapsed when additional bad cases entered their wards. When they were removed to purer wards, improvement was again immediate. One patient was removed four times, each time to a purer ward, and each time with marked advantage. Sir John Pringle shews that in a well-aired hospital dysentery did not spread (p. 64); while in a hot crowded hospital the rest of the patients, the apothecaries, and nurses, were seized with the flux, which spread to most of the inhabitants of the village. "To this acceded a still more formidable disease, namely, the hospital or jail-fever, an inseparable attendant of foul air from crowds and animal corruption" (p. 27). Several of our convalescent cases that returned to the infected districts were speedily readmitted suffering from relapse.

Dr. Hutchinson, Dr. Williams, and myself, joined to certify, under the "Contagious Diseases Act," that the nuisances described were dangerous to life; but the Act we found to be worse than useless. All that it warrants is, the removal of a nuisance; it does not prevent its re-accumulation. The filthy privies were emptied, but the owners were not obliged to close them from the influence of the weather. The stirring up of the filth caused an intolerable stench, and immediately the number of fever cases increased.

Although many of the cases were

* Dublin Hospital Reports.

from among the very poor, very many were in good circumstances. This Dr. Hutchinson, Dr. J. C. Williams, and myself carefully verified.

We felt that the early cases of fever from Lenton and Radford were conclusive as to the effect of a polluted atmosphere in exciting the fever. The case was simple and easily inquired into; we could put our fingers, as it were, on the very causes of the disease.

In August the epidemic shewed itself in a few cases in Nottingham. In September and October the numbers gradually increased, until November, when they rapidly diminished.

I did not inspect those parts of Nottingham from which our cases came; but, as a general result, I know that the filthy ill-drained parts of the town were the chief centres of supply.

My friend Dr. Stiff, one of the surgeons of the Nottingham Union, shewed me the places where his fever cases lay. It was remarkable to see how they clustered round exposed privies and exposed filthy drains. The houses close to six of the privies and three of the filthy open drains contained 45 cases of fever; whereas the neighbouring houses distant from the privies, and the neighbouring streets away from the filthy drains, though inhabited by persons equally poor, were comparatively free from fever.

If every fever appearing in this kingdom bore similar characters to this, we should no longer be at issue with the great French pathologists as to the nature of fever. In almost every particular the description of the "*fièvre typhoïde*" contained in M. Louis's admirable analysis of that disease would answer for the description of this epidemic. In all his cases, as in all ours, there were diarrhoea and abdominal distension; in every autopsy with him, as with us, with one exception, the Peyer's follicles were enlarged, and frequently ulcerated. The mesenteric glands were enlarged in all his cases, and they were so in those of ours in which they were noticed. In his experience, as in ours, epistaxis, vomiting, and inflamed fauces, were frequent complications. The rose-coloured pimples that he found seated on the abdomen I observed in 5 or 6 out of 15 or 16 cases. In these great features our epidemic and the "*fièvre typhoïde*" were identical;

the essential difference between the two epidemics being, that in M. Louis's experience the spleen was enlarged in 36, and softened in 34 cases out of 46; whereas with us, of ten spleens that were weighed, four weighed six ounces, and the rest from five to three ounces. In one or two of our cases the spleen was softened and enlarged. While this epidemic was identical with the fever prevailing in Paris, in every essential, except enlargement of the spleen, it differs in the same essentials, along with the "*fièvre typhoïde*," from the winter typhus of Edinburgh, Dublin, and London. Drs. Henderson and Reid, in their report of the typhus in Edinburgh*, state that the elliptical patches of Peyer were elevated in four cases only out of 41; on two of these there were slight ulcerations. In none of them were the mesenteric glands enlarged. Constipation was more frequent than diarrhoea; indeed, the latter was the exception; and the majority of cases—108 out of 130—had either the petechial or the measly eruption to which Dr. Peebles† and Dr. Roupell‡ have lately called attention. This exanthematous eruption, resembling that in measles, was observed by the great Sydenham in the winter epidemic fever of 1650 (Schedule Monitoria, sec. 5.)

Our fever, like the "*fièvre typhoïde*," differed from the typhus fever in the invariable affection of the elliptical patches, the enlargement of the mesenteric glands, the prevalence of diarrhoea, the absence of exanthematous and petechial eruptions (we had but one patient with petechiæ), and the presence, in five or six observed cases, of rose-coloured papulæ.

This fever differs both from the "*fièvre typhoïde*" and typhus, in the usual absence of affection of the spleen, that organ having been normal in five only out of 41 cases of typhus; and in the "*fièvre typhoïde*" in 10 cases out of 46.

I do not take notice of the numerous points in which the three epidemics are analogous—analogies so close, that the typhus and "*fièvre typhoïde*" have generally been confounded. Alleix, Shattuck, and Lombard, quoted by Louis§, have noted the chief differences,

* Edin. Med. and Surg. Journal, lii. 429.

† Ibid. xlii. 356.

‡ Ibid. lii. 490.

§ Louis, *Fièvre Typhoïde*, ii. 315.

and Dr. Stewart* has ably analysed many of them.

As so strong an analogy, amounting almost to identity, exists between the epidemic of this neighbourhood and that of Paris, we must look for some analogous influences to produce them. The analogy of seasons this year is as striking as the analogy of epidemics. We have had the summer of a warm climate. We have had this summer in common with all Europe, through the world-pervading influences developed by Humboldt in his great work *Cosmos*, and in his earlier works.

The diseases of hot and warm climates differ from those of temperate and cold climates, in that affections of the liver, stomach, and intestines, prevail in the former, and those of the lungs in the latter. As the summer of this country is analogous to warm climates, so are the characteristic diseases of our summer to be classed with the characteristic diseases of warm climates.

I have extracted from the Report of the Registrar-General the following comparative statement of the number in summer and winter of those diseases characteristic of the summer season, occurring in London in 1841.

	Summer Quarter.	Winter Quarter.
Diarrhœa	477	79
Dysentery	71	22
Cholera	101	0
Gastritis	410	206
	1059	307

During the same year there were of chest diseases, excluding phthisis—

Winter Quarter.	Summer Quarter.
3088	1067

It is unfortunate that the Registrar-General groups all fevers under the common head of typhus, combining, as we shall see presently, the opposite forms of fever of winter and spring, and of autumn.

As the fevers, as well as the diseases of warm countries, differ in their type from those of cold countries, so do the fevers as well as the diseases of autumn differ from those of spring.

Through MM. Louis, Chomel, and others, we know that fever with affection of Peyer's patches exists in France, and through various American patholo-

gists, quoted by Louis, that the same exists in New England.

Dr. Cheyne states that ulcers on the Peyer's patches prevailed in all cases of the fever that appeared in the autumn of 1816, and lasted till December.* In January such cases gave place to fevers in which the bowels were never affected.† Dr. Law, speaking of the Dublin epidemic of 1836, says: "Thus in winter and summer have we had it accompanied by bronchitis." Gastro-enteritis was then not seen. "In summer and autumn the epidemic assumed more the character of gastro-enteritis."

Dr. Christison states that affection of the Peyer's patches is more frequent in London than in Edinburgh.‡ Sydenham informs us that dysentery and dysenteric fevers, which were, I feel assured, often identical with our present autumnal fever, appeared in the autumns of 1669, 1671-2 (iv. 3, 2, 4, sec. 6), and in autumn 1675 (v. 4, sec. 5). The dysentery and diarrhœal fevers of autumn gave place, in winter, to measles in 1670 (iv. 4), 1674 (v. i), and 1676; to a winter fever, with chest affections, in 1673 (v. 1), and 1675 (v. 5), and in 1685 (*Schedula Monitoria*) to a fever referred to above, which was doubtless identical with our typhus, having, like it, petechiæ and an eruption like measles. It is perhaps worth remarking, that measles, the eruption of which is so closely simulated by that appearing in typhus, was, in Sydenham's experience, invariably a winter epidemic. This is an illustration, I conceive, of Sydenham's law, that "Whatever distemper prevails over the rest will be found to preside over them during that year, and to the disposition thereof all the then reigning epidemics accommodate themselves so far as their nature permits." (i. 2. Swan's translation.)

Not only may the form of fever characteristic of warm countries appear in Britain in warm seasons, but the typhus fever of Edinburgh closely tallies with a fever observed by Dr. Peebles in Leghorn,§ in the winter of 1817, brought on by the same causes that so often give rise to the typhus of Edinburgh and Dublin; namely, cold

* Dublin Hospital Reports.

† Dublin Journal of Med. Sc. xii. 178.

‡ Libr. of Med. i. 139.

§ Edin. Journal, xlv. 356.

* Edin. Journ. liv. 289.

and want of food : aiding these causes, contagion farther produced the disease which was prolonged far into summer.

In New York and Philadelphia, a fever identical with the "fièvre typhoïde," usually prevails (Louis, *Fièvre Typhoïde*, i. xvi.) Coventry and Wilmoughby describe, in the *New York Medical Journal*, iii. 9, iv. 204, the symptoms of this fever in New York and the Lake Country. Dr. Coventry attributes the fever in the half reclaimed forest lands, and the drying swamps, to the dead decaying vegetable matter; in New York, to the moist and fetid land reclaimed from the sea. Dr. Graham (*Dublin Journal*, xii. 148), after stating that the "fièvre typhoïde" is frequent at Philadelphia, describes a fever occurring in the winter and spring and cold summer of 1836, that tallies with the British typhus. In only one autopsy out of about fifty was affection of the glands of Peyer observable. Not only may the fever, then, that prevails in warm climates appear in temperate climates during the warm season, but the fever, also, of cold climates, and of the cold season in temperate climates, may appear in warm climates, when the seasons are unusually cold, and food unusually scanty. Sydenham observes, "that some diseases happen indiscriminately at any time, whilst many others, by a secret tendency of nature, follow the seasons of the year with as much certainty as some birds and plants." (Preface, ii.)

The fever accompanied with affection of the mesenteric glands and Peyer's patches, takes its rise in autumn in this country, and chiefly in summer in warm countries. The present epidemic, in the opinion of all of us who saw the source of the disease, certainly arose from the foul condition of the atmosphere due to the rotting of vegetable and animal matter. This poisonous effluvium is highly appreciable by the smell; it is undoubtedly drawn into the lungs at each inspiration, and whether it consists of animalcula, as Drs. C. J. Williams and Henle suppose, or of particles of decomposed matter, like musk, too subtle to be detected by our present means of investigation, the effluvium certainly penetrates with the air, through the lungs into the blood, and is carried by the blood to all the nerves

and to every part of the frame. Tainted food and depressing influences, and other causes, doubtless fit the frame to yield to the poison.

The epidemic was manifestly contagious in this institution. Most of the nurses, and two of the pupils, were attacked. I believe contagion acts in like manner with the original effluvia; indeed, the effluvia from the body impregnate and poison the air which is breathed into the lungs; contact may favour the action, but one nurse who slept away from the fever cases, though he suffered from bronchial affections, did not take the fever.

Through the influence of contagion the winter typhus is prolonged into summer, and the autumn fever is prolonged into winter; the two forms of fever thus overlapping each other.

Dr. Southwood Smith justly observes, in his work on Fever (p. 41), that "the fever of one country is not the same as the fever of any other country; in the same country the fever of one season is not the same as the fever of any other season; and even the fever of the same season is not the same in any two individuals."

It is to the co-operation of causes that we must look to unfold this varied aspect of fever. Blending with the pollution of the air, or with cold, or contagion, are many other causes co-operating to produce fever. Tainted food, mental depression, want of cleanliness, organic debility of constitution, previous disease, and many other causes, combine to engender fever.

Need we marvel that different epidemics and the fever in different individuals in the same epidemic present along with identifying analogies characteristic differences? Let any one element co-operating with other elements in the production of fever be omitted, or be present in different proportions, and the whole resulting effect must be modified.

While the invariable occurrence of affection of the aggregate glands, and of the mesenteric glands, exists both in the fever with which we have just been visited, and in the "fièvre typhoïde;" I feel with Dr. Hodgkin "that this pathological condition is not the essence and cause of fever, but that febrile disturbance being produced, these glands are the parts particularly disposed to become the seat

of local affection, 'as a secondary event,' (Lectures on Morbid Anatomy, Vol. I, p. 485.)

In this fever I conceive that the poisonous effluvia, being inhaled, pass into and gradually accumulate in the blood. The polluted blood circulating through the system acts both on the extremities of the sentient, the motor, and the secretory nerves, and on the nervous centres. Sensation is blunted, the muscular powers are enfeebled, the mind becomes torpid, influenced to this torpor chiefly by blunted sensation. The mental disturbance, the delirium, often more resembles a dream than true delirium, rouse the patient from his muttering torpor, recal him to sensation, and for the moment he is sensible.

As Dr. Hodgkin has put forward, I believe, that fever consists "in the suspension, or, at least, very considerable interruption, of that process by which, during health, the various parts of the system are continually undergoing a change, the old materials being removed, whilst others are substituted in their place," (op. cit. p. 490.) Secretion is defective, the materials that ought to be cast off by the urine, the perspiration, the bile, and probably the lungs, accumulate in the system. As Dr. C. J. Williams says, "the distinctive materials of the secretions of urine and bile appear to poison the system if not separated from the blood. The sudden suppression of the urine causes typhoid symptoms." (Principles of Medicine, p. 80.) In fever, the flow of urine is diminished, the proportion of urea in the urine is lessened, and in Dr. Henderson's cases, in the remarkable Scotch epidemic of 1843, urea was detected in the blood. As in fever, the food is not properly assimilated, and animal heat, on the principle developed by Chossat, is not properly generated. Long-standing and severe cases of fever often perish from deficiency of animal heat, unless the heat be artificially sustained. It is manifest that whatever cause or combination of causes may arrest or impede the secretions, may cause fever.

By following up the labours of Sydenham, of Hecker, of Louis, of the many historiographers of fever; by studying closely the phenomena of the various epidemics, along with the personal, the local, and the great cosmi-

cal influences, we shall after long labour with certainty discover the main causes of epidemics.

I think we are justified in concluding that the present epidemic is nearly identical with the "fièvre typhoïde" of Louis. I think it may also be inferred that the autumnal fever of this country is identical with M. Louis's "fièvre typhoïde," and that this fever is cut short by cold weather, just as the form of fever,—typhus, caused by cold, want of food, contagion, and other such influences—is often cut short or exchanged for the enteric type by warm weather.

It was very interesting to note, with the changes in the weather, the changes in the secondary disorders incident to the fever. When the weather became colder, early in October, bronchitis, engorgement of the lungs, or pneumonia, appeared in many of the cases.

Scurvy has been banished from our ships; gaol, and hospital fevers, from our gaols and hospitals; we either prevent or mitigate the small-pox by vaccination; by the draining of our marshes, ague has almost become in England, like the plague, an historical disease. These revolutions, which have annihilated so much disease, have mainly been the noble work of medical men. They are now adding to this good work the removal of many of those causes that engender autumnal fevers, and the diseases caused by a tainted atmosphere; and medical men combine with statesmen in showing the need of food and warm clothing for the prevention of the winter typhus fever, and diseases of an allied class*.

I intended to have made a few remarks on the treatment which was followed by the physicians of the Hospital, Dr. Hutchinson, Dr. J. C. Williams, and Dr. Storer, but that the interest and extent of the subject have led me on to a length far beyond my original intention. In conclusion I cannot refrain from expressing a hope that other observers will make known the phenomena presented by the present epidemic elsewhere, which I have reason for believing is extensively spread over a great part of England.

* There is an able analysis of the British and French Fevers in Dr. Forbes' Journal, xii. 202.

MEDICAL GAZETTE.

FRIDAY, JAN. 8, 1847.

A LETTER which we have elsewhere* inserted strongly corroborates the opinion we have recently expressed†, respecting the improper manner in which coroners' inquests are too frequently conducted. A woman in a respectable station of life destroys herself by cutting her throat with a razor, apparently while labouring under a sudden attack of puerperal mania. A coroner's inquest is held; but the medical practitioner who attended the deceased after her delivery, and who alone was qualified to speak to her state of mind, received no *legal* summons to attend the inquiry. So far as proof of the cause of death was concerned, perhaps this was not absolutely necessary; although we think, from the numerous serious mistakes which have occurred of late years, that no inquest should be taken, at least before a *legal* coroner, without the attendance of a medical practitioner to certify to the cause of death. This attendance may not appear to be necessary to the coroner or the jury; but it may be highly important to the ends of justice, as a case reported at page 77 of our 37th volume will sufficiently testify. The law draws a distinction between those who destroy themselves while in a state of insanity, and those who commit self-murder: the last-mentioned act is felony involving forfeiture of goods and chattels;—and we have always understood it to be the duty of a coroner, when a person has died by his own hands, to procure that evidence respecting the state of mind of the deceased, which may be necessary to determine a ques-

tion obviously of some importance as it respects the memory of the deceased, and the feelings and interests of surviving relatives. "The inquisition should particularly and with certainty set forth the circumstances of the fact, as the particular manner of the wound, and that it was mortal, &c.; and in conclusion add, that the party in such manner murdered himself: for *if either the premises be insufficient, or the conclusion improper*, the inquisition will be bad."^{*}

The medical practitioner on this occasion had certainly no legal claim to a fee, although it is something quite unusual for a coroner to receive medical evidence at an inquest, and then, on a legal technicality, evade the payment of the very small and insufficient honorarium which the law allows. The power of calling for medical evidence rests by law with the coroner, or with a *majority* of the jury; and no medical man can claim a fee for attendance as a witness, unless he has

^{*} *Jervis on Coroners*, 115.—Verdicts of "*temporary insanity*" it is well known are very frequently given at Coroner's inquests upon insufficient evidence. It is not often that we find a coroner attempting to force upon a jury a verdict of *sole de se* in the absence of medical evidence: but a very ingenious form of verdict has been lately adopted which, while it saves the necessity for medical evidence, appears to leave the coroner free from blame: "That deceased destroyed himself; but in what state of mind *there was not sufficient evidence to prove*." This verdict may be very proper in those cases in which nothing is known concerning the deceased beyond the fact that he destroyed himself: it would, however, have been quite improper in this instance, even had no medical evidence been given, because such evidence was really procurable. This verdict may be just in some cases; but we apprehend that the reason why there is not *sufficient* evidence on these occasions, is that a *medical* opinion is dispensed with because it cannot always be had without a fee! Owing to this ambiguous verdict a clergyman in the metropolis has very recently refused to bury a dead body with the customary rites of burial. Independently of the injury thus done to the feelings of surviving relatives, their interests may be injured by the slovenly way in which such inquiries are conducted. In the event of a policy of insurance having been effected on the life of the deceased, evidence of his actual state of mind becomes often of the highest importance. The question is not whether there was or was not "*sufficient evidence*" at the inquest, but whether *proper steps were taken by the coroner* to have that evidence laid before the jury, while all the facts were recent!

* Page 76.

† Vol. xxxviii. p. 1065.

received a legal summons according to the form in Schedule A, 6 and 7 William IV. cap. 89. The proceedings at this inquest clearly show that the power of deciding when medical evidence is or is not required, should not be placed in the hands of a member of the legal profession, whose education cannot possibly enable him to come to a correct decision. What, we would ask, can a man, who has passed his time in an attorney's office, know about puerperal insanity,—in what way a diagnosis of this malady may be drawn,—or how an attack may suddenly lead to suicide or murder? Yet here, with a lamentable ignorance of such subjects, it was quite clear that the coroner was determined not to receive any medical information, because—1st, he issued no legal summons to the regular medical attendant; 2d, he entirely passed over the important medical evidence as to the state of mind of the deceased; and 3d, although the jury obviously profited by the medical evidence, and ultimately based their verdict upon it, yet he evaded the payment of a fee which was *equitably* if not legally due, and thus saved the county of Dorset the sum of *one guinea*! There is no other conclusion to be drawn from the facts than that the coroner intended this to be a *cheap* inquest.

It is very easy to say, that as the medical witness was not legally summoned, he should not have attended. But had he not attended voluntarily, what would have been the result? Judging from our correspondent's statement of the summing up, a most erroneous verdict of *felo de se* would probably have been returned by the jury, under the direction of the coroner, and great injustice thus done to the surviving relatives. The medical witness, although he has lost his fee by a legal technicality, which we should have thought any respectable coroner would

have been, under the circumstances, ashamed to plead in evasion of payment, has the satisfaction of knowing that he has rescued the memory of the deceased from the stain of self-murder which would have been otherwise most unjustly thrown upon it.

The idea of a coroner referring a medical witness to the relatives of the deceased for the payment of a fee for evidence by which alone the jury, summoned by him, could come to a correct decision, is novel and ingenious! It would be just as reasonable for the country magistrates to refer the coroner himself for the amount of his fees to the executors of a deceased person! The writer of the letter has, we believe, no redress. Had the jury returned a verdict of *felo de se* the inquisition might have been pronounced bad, but we doubt whether any legal proceedings of a penal character could even then have been instituted against the coroner. The law, it is true, tells us that if coroners be guilty of any misconduct either in their judicial or ministerial capacity, they are, according to the circumstances of the case, liable to removal, prosecution, or censure; for a misdemeanor in an officer of an inferior court is a contempt of the Court of Queen's Bench, and has both in ancient and modern times formed the ground for censure and criminal proceedings.* This, however, is like that beautiful hypothesis in English jurisprudence,—that Westminster Hall is open to every man for a redress of grievances, and that there is no wrong without a remedy! Notwithstanding most flagrant instances of misconduct which have occurred of late years, who ever heard of a coroner being indicted and punished? The Law-officers of the Crown do not concern themselves in the matter; and the expense and trouble which such proceedings must

* Jervis on Coroners, 68.

always throw upon private individuals, coupled with the uncertainty of the result, will effectually prevent them from coming forward as prosecutors.

The publication of cases like that furnished by our correspondent will, however, serve to open the eyes of the Legislature to the abuses of the present system, and may in the end lead to the appointment of a better qualified class of men, and to a more satisfactory performance of the duties of the important office of coroner.

The employment of the vapour of ether for the purpose of destroying sensibility to pain during the performance of surgical operations is now becoming almost universal. During the last week it was successfully used by Dr. Fairbrother with the occasional exhibition of wine, as a counter-stimulus, in the case of a patient who underwent amputation of the thigh at the Bristol Hospital. The operation lasted fifteen minutes, but the man remained during the whole of this time in a perfectly quiescent state, without motion or sound. He afterwards stated himself to have been conscious of the amputation, but without pain beyond that of a scratch.

The mode adopted on this occasion by Mr. Herapath to ensure the respiration of the ether-vapour, is perhaps the best and simplest which has hitherto been described. It is identical with that which has been so long employed in experiments for the respiration of the nitrous oxide or laughing gas.*

From an advertisement in our last number it would appear that the mania for the employment of ether in surgical operations, is likely to receive a check. We learn that the administration of the vapour of ether to the lungs is "patented for England and the colonies." Hence no person can

employ it without rendering himself amenable to an action at law. It is well known that the most absurd and even impossible processes may be patented under the English law; the great object apparently being to secure the heavy fees, and leave the patentee or the public, as the case may be, to find out the mistake by the results! We do not deny that there is some utility in this discovery, but we doubt whether it possesses that novelty which should entitle it to a patent.* What is to prevent a patient from presenting himself for a surgical operation provided with his own bottle of ether, and a bladder prepared according to Mr. Herapath's directions? Would an action lie against the operator if he drew a tooth under these circumstances? We should think not: because he could not be said to have employed the process; and he could no more prevent a patient from inhaling a dose of ethereal vapour, than he could prevent him from swallowing a full dose of laudanum. Would an action lie against the patient? The patent laws are so complex that it is difficult to give an opinion. Daguerre, after receiving a very liberal annuity from the French government for throwing his "photographic process" open to the world, was actually permitted to patent, by his agents, the use of *solar light*, rare as it is, in England! It appears to us that in spite of the patent-laws a man has as much right to inhale the vapour of ether as to swallow ether in the liquid state; and we do not see how he can legally infringe the rights of the patentee unless he achieves an impossibility, i. e. that he swallows the vapour, and operates upon himself, while in a state of insensibility! The

* We presume that the agents of the patentees intend to open establishments in different parts of the metropolis, where persons may be rendered insensible at fixed prices by their process, or that they will supply the patent vapour to hospitals by annual contract!

* See Dr. Fairbrother's letter, page 81.

two conditions must, we apprehend, be taken together, or there would be no infringement. We cannot pretend to say how a legal decision in such a case would go; but we think there would be very great difficulty in maintaining a patent right to the respiration of the vapour. From an article in the *Pharmaceutical Journal*, for January 1847, we learn that the vapour of ether was inhaled as a substitute for nitrous gas many years ago;* hence the only novelty is in the application;† but unless the ether vapour is employed by the party who operates, we do not see how he can be charged with an infringement. We make these remarks not for the purpose of justifying what the law might deem a collusive infringement of a just patent, but of showing the extreme difficulty which must exist in comprising in a specification what is certainly not a new process, but at the best merely a new mode of applying the well-known sedative effects of ether to the production of a state of narcotism. The patentee must, it appears to us, be prepared not only to claim an exclusive right to the use of the vapour of ether (by respiration) as a narcotic; but also an arbitrary right to prevent any surgeon from drawing a tooth or performing any other operation upon a person who has, by the agency of himself or friends, been brought to a state of insensibility by the inhalation of the ethereal vapour! All professional men, except those immediately interested, will, we are assured, agree with us in thinking that this is not a process to be patented; and we shall heartily rejoice to hear, that this attempt to extort a per centage upon the fees for the extraction of teeth, amputation of legs, &c. &c. has been defeated. Admitting that the privilege of making a profit on

pain and suffering is really secured by law,—who, we would ask, is to pay the fee for a license to use the patent? It cannot be expected that this should come out of the pocket of the operator: he has exactly the same amount of trouble and responsibility whether the patient be under the influence of a narcotic or not. The benefit is conferred on the patient whose nerves are, *pro tempore*, spared the sense of pain. Equitably, therefore, the patient should pay the fee: but a very large number of those upon whom operations are performed, are not able even to pay a fee to the operator, much less to pay one to a patentee for undergoing a temporary exemption from pain and suffering! It is obvious that if this absurd patent right is maintainable at law, whatever benefit may be attached to the discovery will be entirely withdrawn from those who are most in need of it—namely, the unfortunate inmates of our hospitals, and the more wretched tenants of the sick wards of our Poor Law infirmaries! We feel quite satisfied that the Poor Law Commissioners would make no addition to the tariff of scanty fees now allowed for operations in order to pay for the use of patent ether vapour; and it is equally certain that a surgeon who has the liberal salary of about *seventy pounds* a year for medical attendance on some thousands of paupers in a widely spread Poor Law Union, will not be able to make any deduction from the extra five pounds which, in the event of the patient surviving the operation thirty-six hours, he receives for an amputation! It is clear, therefore, that the patentees, if successful in their object, can look for a satisfactory return only to the legs and arms of the wealthy part of the community.

* p. 337.

† Even this is a matter of doubt. See a letter by Dr. Collyer in the present number, page 82.

THE weekly deaths in the metropolis are on the increase. In the week

ending Saturday, Jan. 2, 1847, they amounted to the large number of 1510, being no less than 442 above the winter average! The excess of mortality appears to be nearly equally distributed among infants, adults, and the aged: it preponderates, however, in the latter class—

Age.	Under 15	15-60	Above 60.
Deaths in the week	576	498	444
Winter average	457	316	195

This alarming increase of deaths is still mainly due to the prevalence and fatality of *pulmonary disorders*. The deaths from this class of diseases were 551, (Winter average 354); and bronchitis and pneumonia are still most extensively fatal,—the former among the aged, and the latter among infants. The sudden alternations of cold and heat, of dryness and humidity, render all classes more susceptible of pulmonary attacks during the present season. We find by the table that the excess of mortality is nearly equally distributed over all the metropolitan districts.

Reviews.

Dr. Underwood's Treatise on the Diseases of Children: with Directions for the Management of Infants. 10th Edition, with Additions. By HENRY DAVIES, M.D. Fellow of the Royal College of Physicians; Senior Physician to the British Lying-in Hospital, and formerly Lecturer on Midwifery and the Diseases of Women and Children in St. George's Hospital Medical School. London: Churchill; Longman and Co.; Simpkin and Co.; Highley; Burgess and Hill; and Hodges and Smith, Dublin. 1847.

It is as unlucky for authors and publishers as it is fortunate for science, that many philosophical works which received a place among the standard medical classics of a bygone day, are gradually superseded by the records of

after inquiry until they at length become worthy of attention only as presenting facts for quotation, or as giving evidence of the advance which scientific investigation has made during a given period. While we regard works of this description with a species of reverence, as holding a distinguished position among the earliest treatises in which the outlines of certain important subjects were first defined, we cannot help regretting that attempts should be made to re-introduce them as practical guides to the present generation of students. Few medical works of even twenty years' standing can now be safely placed in the hands of the pupil except in the form of new editions, in which each author has himself adapted his original doctrines to the standard of the knowledge of the present time. Works which were written many years ago by authors now deceased must, with few exceptions, offer but little prospect of success to those who endeavour to revive their popularity in new and revised editions. Treatises of this description always present a lamentably patched and imperfect appearance, as the editors must feel themselves compelled either to state in a very marked manner their dissent from many of the author's views, thereby proving that the original work is not in reality a safe and correct guide, or they must undertake to adapt and alter the original statements so very extensively as almost entirely to destroy the author's claim to the opinions contained in the amended treatise; or they must adopt the still less desirable plan of allowing the original work to appear with all its imperfections thick upon it, but with the qualification of a considerable number of additional notes, in which the opinions given in the text are corrected or qualified. This last plan has been adopted by Dr. Davies in the edition before us, and we regret that we cannot congratulate that gentleman upon his editorial discrimination as displayed in this undertaking; as well might the most skilful artist in Long Acre attempt to persuade a court physician of the present day to consent to pay his daily visits in the well-preserved and carefully vamped and regilt chariot of Dr. Radcliffe, as might the editor of this decidedly imperfect work essay to restore the Treatise of Dr.

Underwood to the estimation which it once claimed from the large majority of our profession. That this once deservedly approved text-book should, after having reached its tenth edition, and having received the correction of three experienced editors, still continue to present much information that is practically valuable, appears to be almost a matter of course; but still we are confident that any well-informed practitioner of the present day, who carefully peruses this Treatise, will not hesitate to decide with us that, even in its amended form, it must be considered as an extremely imperfect and unsafe guide to practice.

The following are some of the grounds upon which we object to the recognition of this work as a practical text-book:—

The editor still adheres to the original opinion, that “the free abstraction of blood is advisable in all severe cases of inflammation seated in the parenchyma of any organ, or in a serous membrane,” (p. 120)—a doctrine which has long been opposed by the well-ascertained and all-important fact, that the most deadly, and, in some localities, the most usual, type of visceral inflammation is that in which the use of active depletion, and of other powerfully depressing measures, is absolutely contraindicated. It is not sufficient for a teacher to remark, that the bleeding must “be proportioned to the urgency of the symptoms, and to the powers and susceptibility of the patient,” but it is also necessary to add, what Dr. Davies has neglected to state, that there are certain forms of inflammation in which the most judicious practitioners of the present day consider it almost an act of insanity to dare to bleed at all.

In the chapter on Epilepsy, the only allusion to the use of the nitrate of silver in that disease is the following passage: “Dr. John Wilson, of Spalding, has lately strongly recommended the internal use of the *argentum nitratum* in doses of gr. iiss. three times a day.” Surely this passage at least required a note stating the subsequent experience of medical men in the use of this medicine, with allusion to the ill effects which it is liable to produce, and a hint with regard to the *proper dose* to be employed by those who might think fit to employ this always

dangerous remedy in the case of a young child.

In perusing the chapter on Scarlatina, we were astonished to find that the author has not furnished the slightest hint regarding the renal affection which is now understood by every practitioner to be the most frequent and most important complication of this malady. It is merely stated, at the end of the article, that “anasarcous swellings of the extremities, and sudden effusions into the cavities of the chest and abdomen, are by no means uncommon complications of scarlatina, particularly among the poorer classes of society, where the accommodations and diet for the sick are not favourable to good recovery” (p. 335); but neither here, nor in the chapters on anasarca, or diseases of the kidneys, is the slightest allusion made to the means by which this kind of disease may be either distinguished, or prevented, or treated; or even to the fact, that the symptoms in question are due to certain morbid conditions of the urinary organs. To whatever cause this unaccountable oversight may be due, it certainly forms an irremediable blemish to the present work.

The only pathological explanation of *ischuria renalis* given in this work is, that it is “a true palsy of the kidneys” (p. 470), a most perilous conclusion for those practitioners who choose to employ their remedies without considering that the “palsy” may in reality be due to acute inflammation of the organs—a condition which would certainly very strongly contraindicate the use of what the author of the text recommends as “cooling diuretics.”

The only allusions to “gangrenous erosion of the cheeks” contained in this work are drawn from a paper on the subject published many years ago by Mr. Dease, of Dublin, and not the slightest attempt is made to point out the causes which are now known to be mainly instrumental in determining the occurrence of this disease. It is true that reference is made to a paper on the subject by Dr. Marshall Hall, but this is of course insufficient in a work which professes to impart definite information.

These are the main grounds upon which we venture to deny the practical value of the work before us. It is true that the original contained much

important matter, and that many portions of its contents, especially the earlier chapters on the management of infants, still retain their pristine value; the notes which were added to previous editions by Dr. Merriman, and Dr. M. Hall, and those which have been appended to this edition by Dr. Davies, are also, as far as they go, of considerable merit; but the often revised treatise is still full of imperfections, which we should have considered that no well-informed writer of the present day would have permitted to escape his notice.

As we have before hinted, most of Dr. Davies's additions to the work are judicious and practical; the following quotations will give a fair idea of their character:—

"In the early stages of uncomplicated hooping-cough, hydrocyanic acid is a remedy that may be more universally used with advantage than any other; we have but seldom seen a case that has not been much relieved by it: and frequently, indeed, in a very large majority of cases, the relief is most marked." (p. 340.)

"After a long trial, I am disposed to attach more importance to alum as a remedy in hooping-cough than to any other tonic or antispasmodic. I have often been surprised at the speed with which it arrests the severe spasmodic fits of coughing; it seems equally applicable to all ages, and almost to all conditions of the patient. I was formerly in the habit of taking much pains to select a certain period of the illness for its administration, and of waiting until the cough had existed at least three weeks, taking care that the bowels were open, the patient free from fever, the air-passages perfectly moist, and the disorder perfectly free from complication of every kind. A continued observation of the remedy has, however, induced me to be less cautious, and I am disposed to think that a very large amount of collateral annoyances will subside under its use. The fittest state for its administration will be a moist condition of the air-passages, and freedom from cerebral congestion; but an opposite condition should not preclude its use should this state not have yielded to other remedies: it generally keeps the bowels in proper order, no aperient being required during its use. The dose for an infant is two grains three times daily; and to older children four, five, and up to ten and twelve grains may be given, mixed with *syrup. rhaead.* and water; it is seldom disliked." (p. 432.)

Although the editor may have thought proper to adhere as closely as

possible to the opinions of the author, we do not consider that Dr. Davies has done well to retain the antiquated phraseology of the original work. How far are such names as the following likely to be understood by the student of the present day? "*Aqua Kali ppt., Hydrargyrum cum Sulphure, Tinctura Fuliginis, Spiritus cornu Cervi, Spiritus Aetheris Vitriolici comp. natron ppt.*" Surely such terms as these should not occur in almost every page of a practical work published in the year 1846!

We regret that we cannot recommend this Treatise either as a text-book for students or as a safe guide for junior practitioners. Its omissions are certainly far more numerous than its errors, but we are inclined to think that an extremely imperfect work on any medical subject is fully as dangerous in its tendency as one fraught with bad practice and erroneous theories.

Life of GEORGE CHEYNE, M.D.: with Extracts from his Works and Correspondence. 12mo. pp. 141. Oxford: Parker. 1846.

THIS is the first of a series of biographies which the editor proposes to publish at certain intervals, his object being to lay before the public and profession, some account of the lives and writings of the most eminent physicians of all countries. Judging from the specimen before us, the plan upon which he is proceeding appears good. We have here all that concerns the professional and private life of a man who acquired great celebrity in his day—in the form of extracts from his writings and correspondence. Dr. Cheyne is thus made his own biographer,—the editor introducing those explanatory remarks which are occasionally required to give connection to the narrative.

The greater part of Dr. Cheyne's works, which are very numerous, were intended for popular perusal; and in this undertaking, observes the editor he is one of the few medical writers who have been completely successful:—

"The class of '*popular*' medical books is almost universally condemned by the more respectable members of the profession,* and for the most part deservedly; as

* "Never," says Dr. Latham, "Never read any

in many cases these works are likely to lead to mischief, by giving that *little* learning which in medicine is peculiarly 'a dangerous thing.' The chief objection against them arises not so much from the fact that they are addressed *directly* to the public instead of through the medium of the medical profession (for the highest truths may be conveyed in a popular form), as from the general character of the books themselves, which for the most part bear evident marks of the incapacity of the writers. Occasionally, however, there have arisen men like Cheyne and Tissot, who while they have proved that they are fitted to instruct their professional brethren by their purely scientific writings, have, nevertheless, not declined to endeavour to supply the public with really good books of popular medicine, instead of the worthless or dangerous trash they so greedily devour."—(p. 128.)

This may be taken as a fair specimen of the editor's style. While he has done full justice to Dr. Cheyne's character, he has carefully avoided the introduction of any fulsome eulogium. This attempt to set before the rising generation of practitioners, the examples of those celebrated members of the profession who have long since passed into the grave,—and to show by authentic documents the points of conduct in which they erred and excelled, is deserving of support. The lives of Dr. Thomas Willis, 1622—1675; and Sir Thomas Browne, 1605—1682, are to follow this memoir of Dr. Cheyne.

Proceedings of Societies.

MEDICAL SOCIETY OF LONDON.

Monday, Dec. 31, 1846.

MR. DENDY, PRESIDENT.

Chronic Bronchitis and Bronchial Asthma.

DR. THEOPHILUS THOMPSON commenced his communication on this subject by remarking that, the ultimate object of all our discussions being the successful treatment of disease, the present season is especially appropriate for considering the affections of a membrane peculiarly exposed to disturbing causes. It was not his attention to dwell on acute bronchitis, attended with hurried

breathing, pain, and fever, in favourable cases subsiding within a week; or in those which do not yield to treatment, soon manifesting the anxious countenance, brown tongue, partial sweats, disturbed sensorium, and inducing death by asphyxia,—since the suitable treatment of this disease is scarcely open to question; neither to expatiate on another variety of bronchitis, (however interesting, from its liability to be mistaken for pulmonary consumption,) in which the expectoration is profuse, purulent, perhaps foetid; the patient becomes emaciated; hectic is established; and after death we find extensive dilations or pouchings of the bronchial tubes, or a villous condition of their investing membrane; but he especially invited the attention of the Society to a class of cases, having neither the urgency of the first, nor the hopelessness of the second, yet claiming our careful study, in consequence of their frequent occurrence, and their injurious influence on the constitution, often occasioning disease of the heart, or especially when extending throughout the ultimate pulmonary ramifications, tending to the production of dropsy. Amongst the applicants for relief at the Hospital for Consumption and Diseases of the Lungs, a very large proportion are affected with chronic bronchitis, in the form which Dr. Thompson proceeded to describe. They present themselves with respiration a little wheezing, and somewhat hurried by exertion; their complexion in some degree affected by partial deficiency of oxygen, often without pain of the chest, or acceleration of pulse, but with inspiration rather laborious, and expiration prolonged. On listening to the chest, the respiratory murmur is found to be more or less extensively superseded by mucous rhonchus, commonly intermixed with the snorous and sibilant. The sleep of such patients is usually disturbed. Those possessing much peculiar nervous susceptibility are liable to distinct paroxysms of asthma, often occurring an hour or two after retiring to rest. If you inquire how long the complaint has lasted, some will tell you many winters, others, that they have never been quite right for many years. They have tried various treatments with temporary effect; but on the whole lose ground, and are unfit for active duty. The heart becomes oppressed and dilated, and they die eventually either from the supervention of acute bronchitis, or from dropsy; or if beyond the meridian of life, not unfrequently, in a few years, they become consumptive. Dr. Thompson proceeded to notice the remedial treatment recommended by authors, and to show that the results were too often unsatisfactory. Antimony given alone is not altogether useless; but it is inadequate, and may be carried to such an extent to injure the con-

book that bears internal marks of being addressed more to the public than to the profession. They are all bad, and many dishonest."—*Lectures*, p. 71. This is undoubtedly true; and it is almost the only point upon which the editors of medical journals will be found to agree!

stitution, without permanently improving the condition of the tubes. Counter-irritation, although strongly recommended, produces only temporary advantage, and superadds to a trying malady a painful annoyance. Acids check expectoration, and often occasion tightness of chest. Opiates, so often given to allay the incidental cough, not infrequently induce severe pleurodyne. The plan which Dr. Thompson first adopted, some years ago, he has, with certain modifications, very extensively employed at the Hospital for Consumption and Diseases of the Lungs, as well as in private practice, and the results have been so gratifying, as to make him anxious to communicate them to the Society. It consisted mainly in establishing on the bronchial tubes, gently, but rather rapidly, the influence of mercury. Calomel is undesirable, since if given freely it will frequently salivate, and its discontinuance be required before the bronchial condition is materially modified; but a single grain of blue pill, given thrice a day for a short period, and subsequently twice or even once daily, accomplishes the object often without producing soreness of the gums. Antimony proves a valuable auxiliary, and enables us to effect our purpose with a smaller quantity of mercury than would otherwise be requisite, and the addition of an anodyne is useful both in moderating the cough and making the stomach more tolerant of the treatment. The formula which Dr. Thompson is accustomed to employ consists of blue pill, half a scruple; antimonio-tartrate of potass, one grain; extract of conium, one scruple, divided into eight pills. The duration of treatment varies with the severity of the disease, and the susceptibility of the patient; but it is often sufficient to administer one pill thrice daily for four days, then twice daily for four days, and afterwards every night for a week. Under this treatment, the sonorous rhonchus usually disappears in a few days, or becomes audible only when the patient takes a deep inspiration, and the expectoration is rendered less tenacious and more opaque. When the breathing becomes comparatively easy, and the only rhonchus heard is the mucous, the mercurial pill may be given less frequently, and ipecacuanha, or, in debilitated subjects, compound squill pill, substituted for antimony. When all rhonchus has disappeared, some roughness of respiratory murmur is often observable, and till this is removed the mercury must not be suspended, or a relapse would be probable. An occasional purgative may be advantageously employed, and when the mercury is discontinued, iodide of potassium is often of value in establishing a healthy condition of the bronchial membrane. Dr. Thompson gave several instances of the successful employment of his plan of

treatment. One, in a gentleman between seventy and eighty years of age, in whom the heart was involved, and dropsy threatened; another, in a young man, who, in consequence of chronic bronchitis, associated with peculiar nervous susceptibility, suffered from distressing paroxysms of asthma, night after night, an hour or two after retiring to rest. He did not attempt to specify all the variations of treatment which the modifications of individual cases might require, but urged that the principle of management was of wide application, aiming to substitute a curative for a palliative plan, and suggested that by changing the condition of the bronchial tubes, and rendering them tolerant even of our variable climate, it might save many individuals, now subject to bronchial attacks, every winter from the evil of annual expatriation.

Mr. LINNIGAR alluded to a case in which there was a frequent recurrence of asthmatic paroxysms. Ipecacuanha seemed to increase the tendency to these attacks.

Mr. HIRD, as long as he recollected, had been in the habit of employing similar remedies to those mentioned by Dr. Thompson in a like class of diseases. In chronic cases he abstained from the use of antimony, and commenced the use of blue pill, in half or one grain doses, and two grains of conium. In young subjects he gave one grain of conium for a dose; and when there was a tendency to dropsical effusion, two or three grains of squill pill were added to each dose. Latterly, in addition to these remedies, he had employed dry cupping with the greatest possible advantage. In old persons, where the expectoration was free, but the body debilitated, he used a decoction of senega with ammonia. He thought that when we exhibited mercury in the class of cases described by Dr. Thompson, it was desirable to procure tenderness of the gums, and to keep it up for a few days.

Mr. DENDY remarked, that poor people seemed to bear the vicissitudes of temperature, when ill, with more impunity than the rich.

Mr. BISHOP inquired what adjuvants in respect to temperature, &c. were employed in these cases. Patients often recovered from these attacks by confinement to bed and regulated temperature. Mercury was doubtless of powerful and decided advantage in many of these cases. He had noticed in influenza, that persons who could be easily placed under the influence of this medicine, had their chances of escape much augmented.

Dr. THOMPSON was still wedded, in those cases of depression and much expectoration alluded to by Mr. Hird, to the old ammoniacal plan. The lobelia inflata was also useful when there was profuse secretion. He had not often employed dry cupping, but

it seemed to be of more advantage in cases where the lungs had become congested, than when the affection was confined to the bronchial tubes. With respect to the auxiliary means, he enforced, when able, an equable and rather warm temperature of the room; but many of the cases he had to attend were those of out-patients of the Hospital for Consumption, in whom, from their necessities, it was often impossible to carry out such auxiliaries; indeed, many of the patients were obliged, whilst under treatment, to go on with their regular employment. In spite of all these disadvantages, the remedies had the desired effect.

Mr. STEDMAN had employed the lobelia inflata, in doses of twenty minims of the common tincture, as an antispasmodic, in cases in which there was but little expectoration. He found, that if there was much expectoration, it was checked by the lobelia.

The Society adjourned until the 12th, when Mr. Dendy will read, "Some Remarks on the Treatment of Abscess, with Cases."

WESTMINSTER MEDICAL SOCIETY.

Saturday, December 12, 1846.

MR. HANCOCK, PRESIDENT.

Case of Strangulation of the Ileum, from a Congenital Band of Fibres passing from the Appendix Cæci to the Mesentery.

THIS case was fully detailed by Dr. Snow in the last volume of the Gazette, page 1049.

Dr. Snow considered it a congenital malformation, as there were no signs of old inflammation, and but a very little recent lymph. The appendix was adherent by a mesentery of its own, leaving an aperture through which the thumb could pass. The strangulation, however, was caused by a separate band. In the "Mémoires de l'Académie de Chirurgie," he found a case exactly resembling this, where a band three fingers' breadth long, and one inch from the cæcum, was attached to the appendix and the mesentery. He thought that the pushing of the uterus may have caused the bowels to become strangulated; and this he considered borne out by M. de la Faye, (vol. iv.) in whose case strangulation was brought on by change of posture. The man had had several attacks of pain previous, which were probably owing to the bowel becoming strangulated for a short time. Dr. Snow then showed the impropriety of active purging in cases where suspicious pains have existed before. At the *post-mortem* of Mr. Marshall's case, the uterus had to be opened before the seat of strangulation could be seen; the colon was turned over; the ileum lay on the outside of it, requiring the parts to be reversed, after the band was broken, before they could be placed in their proper

position; the tongue was red and dry; the mucous membrane of the stomach a little softened. He then mentioned a case where the appendix vermiformis was found with a mesentery attached to it, in an embryo; another, where the cæcum and appendix were both found in an umbilical hernia; and a third case where the appendix was in the pelvis.

In answer to a question by Mr. Brooke, Mr. Marshall said that the pain in his case was general, and not at all local.

Mr. BROOKE mentioned, that in the case narrated by Mr. Curling elsewhere, the exact spot was pointed out by the patient himself. At this spot, there was great tenderness on slight pressure; but no where else could any tenderness be found. Hence it was argued that the seat of injury was near the surface, and that in consequence an operation might have been performed. He attended a cabman, who, having fasted all day, ate a hearty supper of cold potatoes, with some bacon; in the night he felt pain in one part of the abdomen, to the left of the umbilicus. His symptoms were those of indigestion. About forty-eight hours subsequently, stercoraceous vomiting came on. The large intestines were completely washed out by enemata, yet the vomiting and thirst continued. He died on the fifth day: the pain had much subsided the day preceding; he got out of bed, was taken in a collapse, and died. An examination of the body proved the injury to be in the spot where he had felt the pain—two inches of intestine had slipped under the cæcal appendage, just enough to prevent the passage along the bowels, but to stop the circulation. In this case the operation might have been performed; but generally there is too much distension and unsatisfactory indication of the spot. Could he have known then what he now knows, he would have performed an exploratory operation, using the same precautions as to temperature &c. that Dr. F. Bird uses. Mr. Brooke then stated the question to be—Is not a surgeon called upon to operate, if the indications of the seat of injury are probable?

Mr. CLARKE remembered a case of Mr. Bryant, of Kennington, where there was internal strangulation, and the pain was quite local, and therefore a case fit for operation. But the questions to be solved first are, is it strangulation or intus-susception? and, what symptoms justify an operation? He doubted if the remarkable dulness on very careful percussion could be found in one spot only, in many cases, as advocated by Dr. Copland: the operation would generally be a *dernier resort*, and not performed soon enough to save life.

Mr. NORMAN would not trust too much to local pain, until there was a diagnosis of the various sources of obstruction to the in-

testines. In a case he had seen, the intestines were bound closely together by old inflammation, causing a gradual stricture.

Dr. CHOWNE doubted if the attachment to the appendix was congenital, as adhesions take place very often, as is exemplified by adhesions of the ovaries and fallopian tubes. He then narrated the following cases, illustrative of the formation of bands across the abdomen:—A man died after eleven days of constipation, a film being thrown out over the intestines. One of them becoming swelled, burst through this film, pushed it aside, and rends it so as to reduce it to a band. This man had no pain during eight days, referrible to any part. No effect was produced on his pulse, or on his countenance; only there was constipation. He then became seriously ill.—Another patient had had no other symptom than constipation for six or seven days, who died about the tenth. Dr. Chowne felt assured that pain would never show us the seat of injury. Percussion was fallacious, from the abdomen being everywhere inflated. There are cases, also, in which, at the point of death, the bowel becomes disentangled, and recovery takes place.

Mr. HANCOCK considered the condition of the patient, in strangulation of the bowel, to be worse than in disease of the ovary; therefore the operation would not be so successful. He then related the following case:—A gentleman ate profusely: he took some castor oil, and his bowels acted well, yet he got worse. Mr. Hancock then saw him, and recommended venesection, calomel, and opium. He heard nothing of the patient for eight or nine days, when he found him in collapse. For two or three days he had vomited stercoraceous matter. Suspecting the existence of hernia, he examined him carefully, and found a hardness in the left iliac region. He made an opening over the inguinal canal: from the peritoneal cavity came forth several ounces of pus. The gut was quite black, and nearly mortified. He made an incision, and several pints of feces passed. The patient revived instantly, but died twenty-four hours after. No post-mortem was allowed. He would not open the abdomen at all, except to save life.

Dr. COLEY asked what was the best time to operate. In collapse a fatal result would probably follow. In a case which during a fortnight showed no urgent symptoms, the pulse not being more than 100, an artificial anus was made in the sigmoid flexure, and life prolonged six months. He thinks there is no risk in abdominal incisions, if the patient be in good health at the time.

Correspondence.

A NEW MODE OF DEALING WITH MEDICAL EVIDENCE AT CORONERS' INQUESTS.

SIR,—Having been for several years a constant reader of, and subscriber to, your *GAZETTE*, and having frequently been gratified by the fearless and impartial manner in which you have invariably advocated the interests and supported the respectability of the profession, I take the liberty of sending to you the particulars of an inquest, which has just occurred in this neighbourhood, in which the coroner refused to pay me the fee allowed by law after taking my medical evidence, by which evidence the jury were enabled to arrive at a correct verdict. I will be as brief as possible in detailing the particulars of the case, and should be much pleased to have your opinion on it. About three weeks since, in the night, I was summoned into the country to visit Mrs. Loveridge, a farmer's wife. She had been delivered of a living child about a week previously, and although I had been engaged to attend her during her confinement, she had so quick and easy a labour that they dispensed with my services. On the night in question, I rode over to see her, a distance of five miles, and found her labouring under great nervous excitement, quick pulse of 130, face deeply suffused, and other symptoms of determination of blood to the head. Under treatment, free leeching, cold to the head, aperients, &c. these symptoms gradually subsided; the pulse regained its natural standard, her face its usual colour, but she continued in a low desponding state of mind, complained that she could not sleep night or day, felt as if something dreadful was impending over her which she could neither describe nor explain, and that unless she could obtain rest she felt she could not possibly live. I gave her some composing medicine at night, hyoscyamus with a little morphia, kept her bowels freely open, and advised the nurse and others about her to leave her alone as little as possible, to keep up her spirits by a cheerful and encouraging manner, and to endeavour to interest her in household matters, the management of her dairy, &c. Under this plan of treatment she appeared to improve, came down stairs, enjoyed her meals, and gained strength, though she never manifested any fondness for, nor took the slightest interest in, her infant. I paid her my last visit on Friday, the 11th inst.; she was sitting by the fire, and seemed in every respect better. I told the nurse to continue the same plan of treatment, and to let me know immediately if any unfavourable change took place, either mental or bodily; I did not feel easy about her as there was an earnest, anxious,

expression about her eyes, the more remarkable from her having been, when in health, of a bright and cheerful expression of countenance, and a healthy good-looking young woman. I heard nothing more of her until the following Thursday, when a man came to my house, about 4 P. M. to request my immediate attendance on Mrs. Loveridge, who had cut her throat with a razor, and he could not say whether she was living or dead. I went as quickly as possible, and on reaching the house found that she had ceased to breathe. She was lying in her bedroom surrounded by an immense quantity of blood, and I found on examining the wound that she had effected her purpose most completely, and could have survived but a very few minutes. The larynx was completely divided between the thyroid and cricoid cartilages, the pharynx opened, and the right carotid artery and internal jugular vein divided, though not completely severed. The nurse informed me that the deceased had continued much the same as when I last saw her, rather improving in strength and appetite. On one occasion she had found her looking out of her open bedroom window, though the weather was intensely cold, apparently deeply absorbed in thought. On the morning of the fatal day deceased had walked out a short distance, and seemed to enjoy it. She partook heartily of boiled rabbit for her dinner, and shortly after said she would go up stairs and lie down on the bed a little, feeling tired. Soon afterwards the nurse heard, as she thought, a strange noise, and said to a child in the kitchen, "What is that? I must go up stairs and see." She looked through the keyhole, but could not see her mistress on the bed, and on opening the door discovered her lying on the floor, the blood pouring out in torrents from a wound in her throat; the razor was lying by her side. Mrs. Loveridge looked at her but did not speak, and, dreadfully alarmed and agitated, she called for help; and, according to her account, her mistress did not expire for a quarter of an hour; but I imagine she was mistaken in this respect, and that her anxiety and terror magnified the time which had elapsed. The husband, her friends and neighbours, were terrified and distressed beyond description, and most anxious that I should attend at the inquest, and give my evidence respecting the case. The inquest was held on Saturday evening last. I was sent for, and went over immediately. The coroner, who lives at Cerne, in Dorsetshire, took the evidence of the nurse and another person, and nothing of importance was elicited beyond the fact of Mrs. L.'s being low and out of spirits, and more silent than usual. My evidence was then taken as the medical man who

attended her during her illness, and who had been sent for on the melancholy catastrophe which terminated her existence. The coroner was somewhat alighting and discourteous in his manner towards me, but I thought little of it at the time, considering it to be his usual and natural mode of bearing himself. In giving my evidence, I explained as clearly as I could to the jury the nature of the illness for which I had attended Mrs. Loveridge; the effect produced by it on her feelings and spirits; the nature of puerperal mania; the sudden manner in which it may attack women at this period; the tendency often manifested under its influence to destroy life, their own or their infant's, and my own conviction that in the present case, Mrs. Loveridge, although not (whilst I was attending her) actually insane, was nevertheless in a state of mind bordering on derangement, and had doubtless terminated her existence under the influence of a paroxysm of puerperal mania, and was not therefore morally responsible for the act. The coroner, who had interrupted me once or twice whilst I was giving my evidence, apparently considering it quite immaterial as regarded the case in question, then called the jury together, and summed up at great length. His remarks and advice to them had a strong tendency and bias in favour of the case being one of *felo de se*. My evidence he entirely overlooked—made no remark at all upon it; so much was this the case that many of the friends of the poor woman were in another room in tears, fully expecting that a verdict would be returned in accordance with the evident opinion of the coroner upon the case. The jury, however, appeared to think my opinion of some little weight, and very quickly returned a verdict of "temporary insanity." I remained talking a few minutes with the husband, and on going into the room requested the coroner to pay me the usual fee of one guinea, as I wished to return home. He replied, "that he should pay me no fee, that he had not sent for me, and did not require my evidence." I replied, "very likely not; but the jury did, and guided by my evidence they had come to a correct verdict; and that if he had not sent for me he had sworn me, and taken my medical evidence, and could not justly refuse me the fee awarded by law." He said, "I came for the husband, and must look to him." I replied, "that I did not come for the husband, but to give medical evidence as to the truth in a solemn judicial inquiry, in which, from a previous knowledge of the circumstances, no one else was equally competent to afford information." After much altercation in the same style, most repugnant to my feelings, at such a time and on such an occasion, and in which, as a lawyer,

he was perhaps more in his element than I could possibly feel, I left the house, he most absolutely refusing to allow the guinea for my attendance and evidence. I had ridden five miles in a winter's evening, waited three hours, my medical evidence had been used, and a correct deduction drawn from it, and it appears to me that the case is a perfectly clear one, and that this coroner had no right whatever to act in the manner he thought proper to do. Now, Mr. Editor, should your opinion accord with mine, and you could advise me what steps to take, I would rather spend twenty times the amount of the fee than suffer myself to be defrauded of my just right. Such an example as a precedent would entirely defeat the boon we have so recently obtained, and feeling a warm interest in that profession to which I have the honour to belong, I cannot patiently submit to see it trampled on and insulted, if any method of averting such consequences presents itself. I am well aware that the coroner had not expressly sent for me, to attend the inquest, but I knew that the friends and neighbours of the deceased, the jury, the clergyman of the parish, and, in fact, all cognisant of the case, thought it highly important* and necessary that I should give my evidence. And although the coroner, as he pretty plainly evinced, had I not been present, would have readily dispensed with my attendance, and volunteered his own legal and medical opinion, yet under such circumstances an unjust and erroneous verdict might in all probability have been returned, adding disgrace and obloquy, and tenfold bitterness to the feelings of the husband and relatives, already sufficiently crushed by the overwhelming calamity which had fallen upon them. I beg, sir, to apologise for troubling you at such length, but I could not have made out my case by saying less, and I could enlarge much more, especially on the arguments used by the coroner in summing up, in support of his own view; but I will forbear. I have stated the case on public grounds, and shall esteem it a favour should you think it worthy of insertion in the pages of your excellent and widely circulated journal, that others may learn wisdom from the error I committed, in not distinctly and explicitly requiring (previous to being sworn), an official demand from the foreman of the jury for the coroner to take my evidence. Had this course been pursued, I presume that no legal quibble or subterfuge could have afterwards been used to evade the payment of the lawful and hard-earned fee.

Your very obedient servant,

CHARLES BRUORTON.

Chard, December 22d, 1846.

*. We have elsewhere made some remarks upon this communication.—See page 66.

ON THE OPERATION FOR FISTULA IN ANO
IN PERSONS LABOURING UNDER TUBERCULAR DISEASE OF THE LUNGS.

SIR,—If you think the following observations, in reply to the fifth question of a "Constant Reader," in your *GAZETTE* of the 20th November, as to the "propriety of operating for fistula in ano when the lung is affected to a limited extent with tubercles," worthy of a place in your columns, I shall be glad to offer them for his consideration, and for those of your readers who may feel interested in this "important point in medicine" and surgery. Having been for a considerable period actively engaged in the treatment of strumous* and phthisical diseases to an extent that could scarcely occur to the great majority of practitioners, I am induced to contribute my mite towards the solution of the difficulty in the subjoined brief remarks. Should they succeed in removing the doubts of your correspondent, or tend in any degree to promote the comfort and safety of individuals suffering under the complication in question, it will be a source of gratification to, sir,

Your obedient servant,

M.R.C.S.†

Whenever the lungs, however slightly affected, become the seat of tubercular formation, in my experience surgical operations (whether as regards fistula in ano, or any other disease where the knife is freely used) are almost invariably fraught with evil consequences. I have been frequently asked by surgeons, but what is to be done? the patient must die, the disease is irremediable, or so slow of cure that the sufferer grows weary of it; we may as well take away this source of irritation: and having done so, what follows? A removal of all constitutional disturbance? a healing surface? a prolongation of life? Those who may examine closely into the matter will find that the reverse of all this commonly happens, and that there exists a fearful preponderance against such happy results.

Fistula in ano is not, as far as my observation extends, often associated with tubercular affections. In expressing such an opinion, I am aware that it militates against the testimony of high and much esteemed authorities. Sir James Clark, for example, says it is of frequent occurrence in consumptive patients‡, but thinks, with Andral, that there appears to be no connection between the two diseases further than its complication with abdominal and venous plethora, which often precedes pulmonary consumption. Upon this latter assertion I must be

* The writer considers scrofula and phthisis as identical, and not distinct the one from the other, as asserted by Mr. B. Phillips in his late work on Scrofula.

† The writer of this letter has forwarded to us his name.

‡ On Pulmonary Consumption, &c. p. 163.

permitted to remark, that if this abdominal plethora, &c. as shown in the admirable work just mentioned, constitutes (as it undoubtedly does) the scrofulous or phthisical cachexy, any local disease occurring during such a condition of the general system, whether as the result of accident or otherwise, will assume the strumous form, and therefore, under such circumstances, fistula in ano is a scrofulous abscess, and should, in my humble opinion, be so treated. There is another point which the surgeon cannot too often consider, viz. that the strumous diathesis must exist for a greater or less period, extending, as it may happen, to months or years, ere it terminates in the production of tubercle; and not until after a considerable reduction of the *vis vite* has taken place do the various tissues of the body become impaired by its presence. This, then, constitutes the real objection to surgical operations of any kind among scrofulous individuals, for this low degree of vitality will render the reparative process entirely defective, or at least insufficient, whether it concerns the removal of parts or the laying open of a sinus.* It should also be borne in mind, that fistula in ano rarely occurs except amongst the unhealthy, and that, even under favourable circumstances, a repetition of the operation is sometimes necessary. Sir Benjamin Brodie gives unequivocal expression to his opinion on the impropriety of operating when the lungs are affected with tubercle. He recommends the surgeon to ascertain if they are so previous to the operation.† "Persons with diseased liver, and other visceral diseases (he observes), are also liable to the formation of these abscesses. The distinction of these cases from others which occur in otherwise healthy subjects, is very important, inasmuch as the practice which is proper in the one case is quite improper in the other;" he adds, "if the patient labours under visceral disease, it is seldom that the abscess will heal, but if it should, the visceral disease will make increased progress, and the patient die sooner if the operation be performed than if it were left alone." That these observations are true, and the result of extended experience, there can be little doubt, and it is to be hoped that they will (coming from such an authority) have all the weight and consideration to which they are so justly entitled. It is well known, that the loss of even a small quantity of blood in the strumous habit is severely felt, and frequently productive of serious consequences; and if it

be not followed by the appearance of tubercular matter in the part or parts concerned, it may, through its debilitating influence, give rise to sudden increase of it in organs already affected, or create a tendency in others which did not pre-exist. For an example of the first of these it is only necessary to call to mind the effects of hæmoptysis dependent on tubercle, how very often it happens that a rapid and extensive increase of this substance ensues, and the subsequent and equally rapid death of the patient. Numerous and repeated opportunities have occurred to me of observing the evil effects of hæmorrhage on scrofulous subjects, whether as the result of operations, or of causes connected with the progress of the disorder. As long as the various local phenomena of strumous and phthisical affections are regarded as the malady itself, and not as the result of (in almost every instance) an insidious and long-continued derangement of the nutritive functions generally, and it is not perceived that they are the *termination*, and not the *beginning* of the disease, so long, it is to be feared, surgical operations in such cases will find favour in the eyes of the surgeon. I began these remarks by stating the result of my experience on the point in question, and shall conclude them by recording my firm conviction, that when the peculiar substance called tubercle is formed, no matter in what structure of the human frame, *the knife* not only fails in its effects, but inflicts a positive injury on the patient.

London, Dec. 4, 1846.

ON THE TREATMENT OF THE TYPHUS FEVER PREVAILING IN BERKSHIRE.

BY C. SEARLE, M.D. BATH.

SIR,—My experience in the treatment of fever having been unusually great, and as the disease prevailing in Berkshire appeared by the account recorded in your former No. to be very destructive, I took the liberty of addressing Mr. Brenchley, your talented correspondent, upon the subject. Now as Mr. B. in his subsequent communication recorded in your number of yesterday, observes—"The typhus fever still continues to *spread* in this part of Berkshire, and I do not think I should be justified in saying that its *violence* has much abated"—I trust it will betray no want of becoming delicacy on my part towards Mr. B., as I am necessarily desirous of extending a knowledge of the treatment, which I have great reason to hope will prove successful to the whole district in which the disease prevails, in requesting that you will do me the favour to publish at your earliest opportunity the subjoined letter I addressed to him.

Dear Sir,—In the MEDICAL GAZETTE of the last week, I have noticed a paper of

* The proofs of this are, unfortunately, familiar enough to all, in the unsightly scars, loss of substance, &c. &c. so commonly met with amongst the scrofulous.

† Vide Cooper's Surgical Dictionary, art. Anus, p. 217, last edition.

yours on the subject of the fever prevailing in your district. Having been for a period of four years the principal Medical Officer of the celebrated garrison of Seringapatam, where fever is endemic at all seasons of the year, from the simplest form of intermittent, to the severest species of the typhus icterodes of authors, and where accordingly, my experience in the treatment of fever, has been more than ordinarily great; and as fever, wherever it may exist, is the same to-day as it was in the days of Hippocrates, modified alone by climate, season, constitution, and the like circumstances, you will, I am sure, accept in the spirit intended, the suggestions I am about to offer, with reference to the treatment of the disease you so ably describe.

The cause is, I have no doubt, as you believe it to be, malarial—operating under circumstances of cold and privation—arresting the secretions and depreciating all the healthy functions of the system, and developing, in consequence, congestive accumulation of blood in the brain and vessels of the portal circulation, with the excitement of fever:—hence the primary symptoms—chilliness, drowsiness, head-ache, pains in the back and limbs, and lastly sickness of stomach; the latter symptoms attended, I have no doubt, with a sense of fullness and oppression about the præcordial region; the skin becoming hot, and the tongue brown and furred. If this explanation of symptoms be correct, the leading indications of treatment are obviously the restoration of the secretions and removal of oppression from the congested organ. And to fulfil these purposes, I should advise in all cases which would admit of blood-letting, this measure be early resorted to, as it will ward off much mischief, and the diarrhoea, which ensues as a consequence of the progressive and augmented accumulation of blood in the vessels of the bowels and portal circulation. To carry out the other intentions, I should advise the patient being confined to a warm bed, and the administration of a compound of calomel, opium, and emetic tartar, in the proportions of six grains of the first with two of each of the others, made into twelve soft pills, one being given every half hour till full vomiting is induced, and following this up with a pill every second hour till healthy bilious stools are obtained, and free perspiration is induced. The first evacuations, I have no doubt, will prove green, tarry, and muculent, and as this is got rid of, and the secretion from the liver becomes fluid and yellow, and the skin perspirable, so will the patient progressively get better. To this period the patient should be confined to simple diluents, but when the secretions have become thus healthy, the treatment

should be altered; the quinine should now be administered in doses of a grain three or four times a day, with a table-spoonful of wine, and suitable nutriment.

Should there exist pain at the præcordia, increased on pressure, or vomiting, or oppression of breathing, the patient should be bled without reference to the pulse, or leeches be applied, following this up with a blister.

I beg to repeat, that I offer these remarks simply by the way of suggestion, feeling assured by the tenor of your communication, that you will accept them in the spirit in which they have been offered, and hoping that I may have the pleasure of being useful.—Believe me, dear sir,

Yours very faithfully,

C. SEARLE.

Bath, 26th December.

Mr. B. in acknowledging my letter, observes:—"I would beg to say that I fully appreciate your kind intentions, and have also, by experience, proved the soundness and correctness of your method of treatment. In typhus, as you must know, we meet with collapse almost from the commencement; and of course the difficulty is to find out whether it arises from pressure on the brain, or from simple prostration: in the former, your treatment is almost infallible, but the latter is the most constant feature in the fever of which I have written. The great advantage of leeches, where there is pain over the præcordia, has been abundantly exemplified, and really seems to act sometimes as a charm."

Mr. B. will, I am sure, excuse the liberty I am taking in offering a reply to his observations in my present communication, from the reasons named, my desire to extend my views on the subject to the whole district in which the disease is prevailing. "The difficulty (Mr. B. says) is to find out whether the collapse met with from the beginning arises from pressure on the brain, or from simple prostration." The word collapse I would limit in signification to the condition resulting from exhausted power succeeding to excess of excitement—a sequel to fever in this case, and a condition indicating the use of wine and stimulants; and oppression, to the condition of prostration, which is met with in the early stage of fever, and which consists in a condition of passive plethora—of congestive accumulation of blood in the brain and central organs, the influence of a sedative and depressing agency, such as may be supposed to be induced by cold and malaria, upon the powers of circulation: and is, I believe, best treated by depletion, warmth, and the operation of an emetic. Why an emetic? In reply I would say, if there be any one thing which gives impulsion to the blood more than

another, it is the operation of an emetic. Its useful influence in the condition of oppression was very strikingly exemplified to me, in an experiment I once made upon a dog. Having injected an ounce of a strong infusion of tobacco into a vein of a dog, the poor animal was soon rendered, and continued for nearly an hour, all but dead—when it passed a scanty stool, which was followed soon after by vomiting, when, to my astonishment, the dog, within ten minutes, had so much recovered, that he rose up and soon after ran away. The deep inspirations which attend the act of vomiting draw the blood from the brain, augments the respiratory function, propel the blood through the liver, evacuate the stomach, and excite the whole system.

In reply to Mr. B., I believe I may venture to say, that the early indications will, in all cases, be best fulfilled by the remedies I have advised in my letter to him.

I have only to add my compliments to Mr. B., and the expression of hope, that he, and other of the professionals of the district, will, from time to time, communicate the results of their practice and progress of the disease.—I have the honour to subscribe myself, sir,

Yours obediently,

C. SEARLE, M.D.

Bath, 2nd January, 1847.

PAINLESS SURGICAL OPERATIONS.

SIR,—Your attention has, no doubt, been drawn to a surgical case here in which the inhalation of ether has been used very successfully. I beg to hand you a statement of it, with a few observations.

"Surgical operation without pain."—Thursday, Dec. 31, a young man, a patient at the Bristol General Hospital, had his left leg removed above the knee, amputation being rendered necessary by a white swelling of three years' standing. At the suggestion of Dr. Fairbrother, senior physician to the Hospital, Mr. Lansdown, the operating surgeon, was induced to try the effect upon the patient of the inhalation of the vapour of sulphuric ether, by which the patient is thrown into a state of utter insensibility. The bladder used in imparting the laughing gas was employed on this occasion, into which Mr. Herspath introduced the ether, and caused the patient to inhale the vapour. After a minute and a half he was unconscious. The surgeon then commenced his incision, and, after the lapse of two or three minutes, Dr. Fairbrother again administered the vapour, keeping his fingers on the patient's pulse, and watching his breathing; alternately wine was administered in small quantities with the vapour, which kept him in a state of unconsciousness for fifteen minutes, during which time the operation

was completed. The limb was separated from the body in one minute. During the operation the muscles of the face did not express the least pain, and the patient was motionless, and, after the operation, he awoke perfectly quiet and calm, and stated he had not felt any pain, either in cutting through the skin, flesh, bone, nipping the bone, or tying the vessels, some of which required to be dissected from the nerves, which is ordinarily excessively painful. This is the second time, we believe, these means have been used in England. In America the vapour has been resorted to in cases of large and painful operations, which are performed rapidly, and do not require any very nice dissection, the effect passing off in from two to three minutes. By the satisfactory experiment now before us, as advised by Dr. Fairbrother, it is manifest the process can be applied to operations of a long and painful character; it may also be applied for the alleviation of pain in medical cases. The patient has slept better than for ten nights previously, and is going on favourably."

The above is a plain statement of the matter. I conceive facts of some importance are illustrated by it.

1st. In the cases cited by the American authorities only temporary insensibility has been produced; in the instances of teeth extraction almost all the cases frowned, or raised the hand; one patient, whose leg was amputated, uttered a cry when the sciatic nerve was divided; others opened their mouths, and showed other signs of consciousness; in one case, where the inhalation was carried on incessantly for a long period, the patient suffered from a narcotism and drowsiness lasting an hour, and the insensibility approached to coma; respiration was very slow, hands cold, and the patient insensible. In the present case, by keeping my fingers upon the pulse, and closely watching his respiration, varying the process by giving wine (leaving off at intervals all the means, and allowing him to breathe the atmospheric air), he was kept exactly in that state of unconsciousness that was desired, from which he awoke directly after the operation was completed, and the treatment ceased without the least unpleasant feeling, and the man appeared as though he had suffered no pain: his pulse, when he was placed upon the table, was 110; on the first application of the inhalation, it rose to 145 and 150; the average of the pulse was 160 to 180, the respiration was in proportion; the pupils were contracted.

I should not hesitate to superintend a case requiring a longer duration of the application than the present, which occupied from fifteen to twenty minutes.

I would just observe, having narrowly watched this case twice a day, the gradual

improvement of the patient is very satisfactory, which I attribute in a great measure to the absence of the shock to the nervous system which usually accompanies these severe operations; a result so desirable that it is evident the discovery of this process has manifold advantages, and I would beg to say that, under judicious management, and discretion in the selection of cases, it may be made available in numerous instances for the benefit of suffering humanity.

Your obedient servant,

A. FAIRBROTHER, M.D.

Senior Physician to the Bristol General Hospital.

P.S.—The quantity of ether used was about one ounce, taken from the dispensary of the hospital.

Park Street, Bristol, Jan. 4, 1847.

THE AMERICANS ANTICIPATED IN THE
DISCOVERY OF THE NARCOTIC PROPERTIES
OF THE VAPOUR OF ETHER.

THE following letter has been addressed to the Editor of the British and Foreign Medical Review, who has kindly forwarded it to us.

SIR,—I know that you will at once accord to me what I deem to be my right. In the 45th number of your journal, a full account is given of cases of unconsciousness, during various surgical operations, brought about by the inhalation of ether. The credit of this discovery is assigned to Dr. C. T. Jackson and Dr. Morton. In the year 1842 I made a great many experiments in this particular, though the results with me were far more successful, as the unconscious condition was never less than half an hour, and sometimes much more.

The press of the United States did not forget to comment most freely on my experiments; in fine, they were the subject of humour and joke, from one end of the Union to the other.

In 1843 I published a work on the subject, wherein at pages 26, 27, and 28, I distinctly and unequivocally declare, "*that the unconscious or congestive state may be brought about by the inhalation of narcotic and stimulating vapours.*"

As more than a thousand copies were sold in Philadelphia, at York, and Boston, and my experiments were the common topic, it is not to be supposed that these medical gentlemen did not hear of them. By the addition of *narcotic* to the stimulating vapours, we may prolong the unconscious state to several hours.

I remain, most respectfully,

ROBERT H. COLLYER, M.D.

St. Helier's, Jersey, Jan. 6th, 1847.

P.S. I may as well mention, that on the 10th inst. I delivered a lecture here advocating the very fact of producing uncon-

sciousness by inhalation:—this was previous to the news coming from America.—R. H. C.

. We have not seen the work to which Dr. Collyer refers. What is its title, and when and where was it published?

In our notice of this subject last week, at page 39, we referred our readers to a summary of what is known concerning this alleged discovery, to the British and Foreign Medical Review for the present month. An error occurs in the reference—for January 1846, read January 1847.

THE MORTALITY OF CHILDREN, AND THE
PRINCIPAL DISEASES CAUSING THEIR
DEATH.

SIR,—The frightful mortality met with amongst children, not only in the crowded dwellings of the metropolis and towns of England and Wales, but generally throughout the country, demands the utmost attention of medical practitioners, so that measures might be taken to remedy, if possible, an evil fraught with such serious consequences to the community. The large number of young persons annually carried off by disease, at a period of life when they are, as it were, just entering upon physical and moral existence, implies great neglect, to say the least, on the part of their natural protectors; for I feel convinced, having had some experience in the management of children, both in health and disease, that much might be done in modifying, if not in preventing, the influences occasioning a calamity of such magnitude to the poor as well as to the opulent.

If the dictates of nature and common sense were more frequently attended to in the rearing of children, the proportion of deaths amongst the younger part of the community would not be so considerable as experience proves to be the case. Undoubtedly contagious maladies are less prevalent in particular years and at certain seasons than during other periods; which is especially apparent in regard to eruptive complaints, as shown by the following table, embracing the three most fatal eruptive diseases affecting persons of all ages throughout England and Wales, during five consecutive years.—See first Table on next page.

From this table it appears, that during 1838, when small-pox was so fatal, measles and scarlatina were comparatively mild; but in 1839, small-pox being less severe, measles and scarlatina proved about twice as fatal as during the previous year. Nearly the same comparative ratio was observed in 1840 and 41; but in 1842, when small-pox was only one-sixth as fatal as it proved in 1838, the deaths by measles were considerably increased, and by scarlatina they were more than double the amount reported in that year.

Table of deaths from small-pox, measles, and scarlatina.

Disease.	1838.	1839.	1840.	1841.	1842.
Small-pox	16,268	9,131	10,434	6,368	2,715
Measles	6,514	10,937	9,326	6,894	8,742
Scarlatina	5,802	10,325	19,816	14,161	12,807

Table of the principal diseases causing death in children under 5 years in the metropolis, during 1844.

Causes.	Disease.	Total deaths at all ages.	Under 5 years of age.
Specified contagion . . .	Scarlatina	M. 1,545 F. 1,484 } 3,029	M. 1,126 F. 1,025 } 2,151, or 71·02 per cent.
	Small-pox	M. 942 F. 862 } 1,804	M. 633 F. 575 } 1,208, or 66·96 "
	Measles	M. 627 F. 555 } 1,182	M. 586 F. 511 } 1,097, or 92·80 "
Cold and atmospheric influences . . .	Pneumonia	M. 2,149 F. 1,915 } 4,064	M. 1,534 F. 1,386 } 2,920, or 71·85 "
	Whooping-cough	M. 565 F. 727 } 1,292	M. 534 F. 687 } 1,221, or 94·50 "
	Croup	M. 218 F. 193 } 411	M. 189 F. 163 } 352, or 85·64 "
Improper feeding . . .	Teething	M. 395 F. 333 } 728	M. 392 F. 333 } 725, or 99·58 "
	Diarrhoea	M. 353 F. 352 } 705	M. 257 F. 242 } 499, or 70·78 "
	Tabes-mesenterica	M. 261 F. 201 } 462	M. 229 F. 178 } 407, or 88·09 "
Often the above, or in consequence of other diseases . .	Thrush	M. 129 F. 130 } 259	M. 127 F. 129 } 256, or 98·84 "
	Convulsions	M. 1,545 F. 1,191 } 2,736	M. 1,512 F. 1,146 } 2,658, or 97·11 "
	Hydrocephalus	M. 982 F. 781 } 1,763	M. 865 F. 660 } 1,525, or 86·48 "
		Total 17,415	Total 13,019, or 74·75 "

According to this statement, the most fatal malady amongst young persons was pneumonia, next convulsions, then scarlatina, and afterwards hydrocephalus; by which four diseases, 9254 children under five years, or upwards of one half the whole number of those comprised in the preceding table, died in the metropolitan districts during 1844. Viewed in another light, it appears from the same document that eruptive diseases and those affecting the organs of respiration, proved fatal to children in nearly the same proportion; 4,456 deaths having been recorded in the former, and 4,493 in the latter division. Respecting the proportion of deaths by pneumonia and scarlatina in young persons, when compared with those met with in adults, it is a curious coincidence that the numbers are nearly similar, being 71 and a fraction per cent. in both diseases; whereas in hydrocephalus, the ratio was about 71 and a half per cent., but upwards of 97 per cent. in convulsions:

so that nearly the whole deaths recorded from this cause occurred in children who had not completed their fifth year. Again, in pneumonia, and especially in convulsions, a large proportion of the deaths took place amongst infants under one year old; whilst in scarlatina and hydrocephalus the most fatal period was from the first to the second year. These facts are important in a practical point of view, and will be of use to the medical practitioner when forming his prognosis respecting those diseases. It is also interesting to observe how very seldom measles and whooping-cough proved fatal in persons who had passed their fifth year, seeing that nearly 93 per cent. of the total deaths, occasioned by the former disease, occurred in young persons under that age; whilst 94½ per cent. of those carried off by whooping-cough were also under their fifth year: indeed, in both diseases, a large proportion scarcely exceeded the age of twelve months. In teething, as might be

expected, the total deaths recorded took place in children under 5 years of age; with the exception only of 2 males, both of whom died in their fifth year. Likewise, in thrush, all the fatal cases occurred in individuals under that age, excepting one female, who died in her 50th year; and 2 males, one being 15, the other 17 years old. Thus proving that both these complaints are almost exclusively fatal in infancy or childhood.

Although unwilling to enter upon controversial matter, it nevertheless appears necessary to make a few remarks respecting the classification of causes adopted in the present paper, as they frequently exert considerable influence on the diseases referred to in the table; more especially, as I feel confident, if greater attention were paid to obviate their effects upon the susceptible constitutions of children, not only many of the cases would prove less violent and fatal, but their aggregate number would be materially diminished. This is true especially with respect to the action of cold, atmospheric changes, and improper feeding; of which injurious influences every practitioner conversant with infantile diseases must have had ample experience. In proof of this proposition, reference need only be made to the facts contained in a previous communication in this journal, which points out the greater mortality occurring amongst the children of the destitute, badly-lodged, and often ill-fed inhabitants of St. Giles's parish, compared with similar results observed amongst those living in the more opulent and less crowded streets of St. George's, Hanover Square, where the mortality of children under 5 years of age was only half the amount in proportion to the population, reported to have occurred in the former locality.

MEDICUS.

December 26th, 1846.

Medical Intelligence.

FEVER IN IRELAND.

FEVER is rapidly extending its ravages even in Dublin. The Cork-Street Hospital, one of the largest establishments of its kind in Ireland, is literally crammed with patients, to such a degree of inconvenience, indeed, that the governors have given directions to have temporary buildings—if sheds or tents can be so called—prepared for the reception of the numerous patients for whom there is no accommodation within doors. The state of the Meath and Richmond Hospitals is equally deplorable, and the accounts from all parts of the country

represent disease and destitution proceeding at an equal pace.—*Times*.

OPERATION OF GASTROTOMY FOR THE RELIEF OF INTERNAL STRANGULATION.

We are informed that the operation of gastrotomy has been recently performed by Mr. Hilton, of Guy's Hospital, with complete relief to the intestinal obstruction, in a man, twenty years of age, suffering from internal strangulation of a large portion of ileum of twelve days' duration. The point of obstruction was situated about twelve inches from the cæcum. The patient died of exhaustion a few hours after the operation. Full particulars of the case will shortly be given at the Medical and Chirurgical Society.

NEW YEAR'S ADDRESSES OF MEDICAL JOURNALISTS—CHEAP JOURNALISM.

We have before us the first number of the *Gazette Médicale* for the new year. With that enthusiasm so characteristic of our Gallic neighbours, the Editor thus addresses his readers:—"How shall we address our subscribers at this jovial season of good wishes and good feelings? They have not the slightest knowledge of the heart of a journal if they doubt for an instant the affection which we bear towards them. We freely extend our arms to them, and our earnest desire is to hug them in a close embrace as long as possible. It is useless to say that we wish them every good quality: there is one, however, which we hope will become more and more confirmed by time, i. e. constancy to things in general, but more particularly in reference to their subscriptions to the journal. In these seducing times, the exercise of good sense is required to keep them in the right path, and to enable them to close their auditory passages against the voice of the tempter. The most successful form of temptation in the present day is that which presents itself under the guise of 'cheapness.' Our subscribers must have had too much experience not to have learned, as good housekeepers, that there is no article so dear as that which is bought cheap. Let them therefore look closely to the relative value of their purchases."

*** There is a spice of honesty and candour about this fervid editorial effusion which pleases us. We join in the advice respecting the fallacy of trusting to the "cheapness" of a journal when it has no other claim to support,—and this is puffed off as a great recommendation to subscribers. It was well said by Hood, that "it seems never to have occurred to the sticklers for cheapness that an article may become unreasonably reasonable,—that the consumer may be benefited overmuch. It is certain that new works, and especially periodical ones, have been projected and started during

the rage for cheap literature at rates so ruinously low, that they might afford brown bread to the publishers or to the writers, but not to both."

HONOURS CONFERRED ON MEDICAL MEN.
THE Queen of Spain has created Professor Orfila a Knight of the order of Charles III. Her Majesty has also made him a dignitary of Spain by a special ordinance. These honours have been conferred on the eminent French Professor in consequence of his having completely remodelled the medical institutions of Madrid. In this reform, Orfila appears to have accomplished a miracle; for he has actually succeeded in satisfying *all* branches of the profession! When we have another medical reform bill under discussion, it would be desirable to secure his services for Great Britain.

Don Pedro Castello, chief physician of Isabella II. has also been made a Knight of the Order of Charles III. and has had conferred on him the title of *Marquis of Health (de la Salud)*. As our French contemporary remarks, this must be a great recommendation to patients, but it is only reasonable to expect that the Esculapian marquis himself, will henceforth be free from all attacks of sickness! The creation of this extraordinary title is in accordance with a strange practice prevalent in Spain, of fixing upon some quality or virtue in raising to the peerage an individual who may have no territorial possessions. Hence, among non-professionals, we find Dukes of *Fidelity* and *Victory*; and for the first time, we believe, among professional men we have the creation of a Sanitary Marquisate!

Don Pedro Maria Rubio, another eminent Spanish physician, has been created a Knight of the Royal American Order of Isabella the Catholic.

THE FUNERAL OF PROFESSOR TOMMASINI.
THERE can be no doubt that eminent men of the medical profession occupy a much higher rank in public estimation on the continent than in this country. The most distinguished English surgeon or physician dies; his death is chronicled in the journals, his body is consigned to the tomb in private, and by the public he is speedily forgotten. It is not so on the Continent. Honours are there paid to the dead; whether they have rendered themselves illustrious in medicine, the arts, or arms, and a monument is erected as a mark of a nation's gratitude.

The funeral of the late Prof. Tommasini is said to have taken place recently at Parma with imposing splendour. The whole of the court, and more than three hundred families of distinction, were present at the ceremony. The members of the various medical faculties, and all the dignitaries in the army and in the state, were among the followers. The

leadern coffin was borne to the church of the Campo Santo by the students of the Faculty of Medicine. The funeral took place at night, and as the procession passed through the streets, the front of each house was illuminated by torches, the last testimony of the sorrowful respect and gratitude of a nation.—*Gaz. Méd.*

RESTRICTION ON PRESCRIPTIONS IN PRUSSIA.

THE Prussian Government, on the recommendation of the Council of Health, has issued an ordinance to prevent the occurrence of accidents from mistakes in prescriptions in which powerful medicines are ordered. A maximum dose of each of these medicines has been fixed for an ordinary prescription. If the physician should wish to order a larger dose, this must be specially stated on the prescription. Unless this be done, the druggist is bound to dispense only the legal maximum, under a penalty of from three to eight pounds.—*Gaz. Méd.*

Contrast this with the free trade in the sale of poisons which is openly carried on in Great Britain!

ON THE MODE OF INHALING ETHER VAPOUR FOR THE PRODUCTION OF INSENSIBILITY.

AN eminent physician, who has himself respired the vapour of ether with the usual effect of producing perfect insensibility of at least *two minutes'* duration, has furnished us with the following memoranda as the results of his own experience:—

1. That the patient should practise with the apparatus the inhalation of common air previously to respiring the ether vapour.
2. That the lips should be enclosed in a mouth-piece, or the lips firmly compressed with the fingers around the mouth of the pipe, when the insensibility begins.
3. That the nostrils should be compressed by the fingers, so that no air can be received through them.
4. That in order to ensure the production of a full effect, the inhalation of the vapour of ether should be continued from half a minute to a minute and a half *after* insensibility has been induced.
5. That the ether vapour must not be too concentrated, or great difficulty is experienced in respiring it. It should be so diluted with air as to render it easily respirable.

This last-mentioned condition would be fulfilled in following the plan suggested by Mr. Herapath, *i. e.*, of breathing the vapour from a bladder of air furnished with a mouth-piece.

The sensations which precede the stage of insensibility are very remarkable. There are various optical illusions; and when the insensibility passes off, there appears to have been for the period a complete obliteration of existence.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their Examination and received Certificates to practise on Thursday, December 31, 1846.—Cornelius Black, Chesterfield, Derbyshire. Charles Thompson, Leicester.

OBITUARY.

On the 1st inst, at Hereford, F. B. Glasspole, M.D.

At 83, Summer-hill, Dublin, on the 23d ult. John Bickerson Flanagan, Esq., late surgeon of the 4th Dragoon Guards, in the 62d year of his age. He was universally lamented by all who knew him.

Selections from Journals.

SURGERY.

CASE OF COMPOUND FRACTURE OF THE LEG IN A PATIENT OF THE HÆMORRHAGIC DIATHESIS. BY W. DRUITT, ESQ. OF WIMBORNE.

A TALL and not very muscular man aged 27 came under Mr. Drutt's care on the 24th of September, 1843, with a very severe compound fracture of the left leg about its middle. It was found that both bones were broken, the tibia obliquely, the upper portion protruding about three inches on the inner side of the leg through a wound five inches in length. The man was faint from loss of blood, but as far as could be learned from him his general health was good, although he was decidedly of a scrofulous diathesis. The narrator determined, if possible, to save the limb, seeing no surgical reason why it should not be done. For the purpose of returning the protruding end of the tibia, it was found necessary to remove about half an inch of it with the saw, and a small splintered portion with the cutting forceps; after which Mr. Drutt was enabled to bring the edges of the wound together. The man was placed on his left side, a piece of lint dipped in blood applied to the wound, the leg being put up in a many-tailed bandage, with two splints, and kept constantly wet with cold water. The further treatment was such as is usual in similar cases of severe injuries.

The man went on well, the leg remaining in a most excellent position, till the 21st of October, when Mr. Drutt was suddenly called to him early in the morning, in consequence of considerable hæmorrhage from the wound. He found that the blood welled out at the corner of the wound, and that he had lost at least a pint. He ordered the constant application of cold water, and the use of two table spoonfuls of the following mixture every three hours:—Dilute sulphuric acid, one drachm and a half; tincture of opium, twenty drops; water, six ounces.

These measures had the desired effect of

stopping the hæmorrhage, but on several occasions during the next month Mr. Drutt was much troubled by similar attacks, which, although not so severe, greatly impeded the progress of the case, and at length reduced the strength of his patient to an alarming degree.

After one or two of these attacks the author was led to make particular inquiries of the man on the subject, and found that when he was in good health, he always experienced the greatest difficulty in stopping the bleeding from even the smallest cut, not being able to remove the dressings from it, for ten days or a fortnight, without the recurrence of the bleeding, and that on one occasion he lost nearly a quart of blood from a small cut on the wrist before it could be stopped.

With the exception of this bleeding every thing went on favourably till the 7th of January, when the patient was attacked with scarlet fever. At this time the wound in the leg was smaller than a fourpenny-piece, and in every respect the man was progressing as well as could be wished. The fever was mild for the first three days, when it assumed a typhoid type, and the man became insensible, and remained so for ten days. The effect of the fever on the leg was most striking; the healed portion of the wound, nearly five inches in extent, turned quite black, and the cuticle peeled off; the bones, which were by this time firmly united, became disunited, and the leg one bag of pus. The fever was treated by the usual means, tonics and stimulants, and very large doses of opium, which it was found necessary to continue for some time after his recovery from it. The pus was evacuated from the leg by counter-openings, and the wound dressed with dilute nitric acid lotion and poultices. Mr. Drutt was rewarded for all his trouble and anxiety by his patient's gradual recovery from this frightful state of suffering and danger.

Towards the end of May, a portion of bone separated from the sawn end of the tibia, and in a few days the wound in the leg was quite healed. At this time the patient was permitted to get up; but, in putting his leg to the ground, although it was firmly bandaged, two or three small vessels in the cicatrix gave way. The sore caused by one of these extravasations of blood under the new cuticle at the lower part of the wound did not heal; and in a fortnight a portion of bone appeared, but remained firmly attached to the surrounding parts. About this time an opinion was given that the limb should be amputated, but Mr. Drutt was opposed to that measure. In July he removed the loose portion of bone. The wound quickly healed, and in ten days the patient was permitted to get up, the leg being previously well strapped and bandaged.

February 26th, 1845.—The state of the patient is as follows:—His general health good; the leg quite firm and strong, and much increased in size; but the knee having been kept some time in a bent position, it is not quite straight; but when it is so, Mr. Druitt is confident there will not be a difference of more than half an inch in the length of the two legs. He is able to walk on level ground with one stick.—*Abridged from the Provincial Medical and Surgical Journal.*

[REMARKS.—This case does great credit to the perseverance and judgment of Mr. Druitt; as there can scarcely be a doubt that amputation at any period of the case would have been followed by uncontrollable hæmorrhage.—ED. GAZ.]

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Dec. 26.

BIRTHS.	DEATHS.	Aver. of 5 yrs.
Males.... 582	Males.... 612	Males.... 493
Females.. 610	Females.. 656	Females.. 475
1192	1268	968

CAUSES OF DEATH.

Col. A. Weekly Averages of 5 Autumns; Col. B. of 5 Years.

ALL CAUSES	1268	A.	B.
SPECIFIED CAUSES	1263	992	961
1. Zymotic (or Epidemic, Endemic, Contagious) Diseases	150	206	188
Sporadic Diseases, viz.—			
2. Dropsy, Cancer, &c. of uncertain seat	102	104	104
3. Brain, Spinal Marrow, Nerves, and Senses	182	151	157
4. Lungs and other Organs of Respiration	508	313	294
5. Heart and Bloodvessels	63	29	27
6. Stomach, Liver, and other Organs of Digestion	95	70	72
7. Diseases of the Kidneys, &c.	13	8	7
8. Childbirth, Diseases of the Uterus, &c.	22	11	10
9. Rheumatism, Diseases of the Bones, Joints, &c.	11	6	6
10. Skin, Cellular Tissue, &c.	7	2	2
11. Old Age	60	66	67
12. Violence, Privation, Cold, and Intemperance	40	27	26

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	2	Convulsion.....	44
Measles	12		
Scarlatina	13	Bronchitis	134
Whooping-cough..	35	Pneumonia	146
Typhus	43	Phthisis	116
		Dis. of Lungs, &c.	25
Dropsy.....	16		
Sudden deaths ..	14	Teething	11
		Dis. Stomach, &c.	9
Hydrocephalus ..	26	Dis. of Liver, &c.	15
Apoplexy.....	47		
Paralysis	28	Childbirth	17
		Dis. of Uterus, &c.	5

REMARKS.—The total number of deaths was 268 above the autumnal and 300 above the annual average. This great mortality was chiefly owing to Diseases of the Lungs. In all the districts, it was above the averages.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer	29.19
" " Thermometer	36.3
Self-registering do. max. 55.5 min. 16.	
" in the Thames water — 38.5 — 33.	

a From 12 observations daily. b Sun.

RAIN, in inches, 0.63: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 3° below the mean of the month (39.3°). The extreme hebdomadal range in the self-registering thermometer was 39.5°.

NOTICES TO CORRESPONDENTS.

In the Philadelphia Medical Examiner for 1846, which we have just received, it is stated at page 483 that an error has been committed by the translator of the paper on Kystein, published in our 37th volume, p. 963, in assigning the credit of certain researches on that substance to Dr. Kane of Dublin, instead of Dr. E. K. Kane, an American physician. The error, if any, lies with the author of the paper, Dr. Möller of Königsberg, as our contemporary would have found on reference to Casper's *Wochenachricht* for Jan. 11, 1846, p. 22. Dr. Möller expressly states, "Noch zweifelhafter kussert sich Kane in Dublin," &c. The translator therefore only performed his duty in thus rendering the passage. The Editor of the Examiner states, in reference to the death of a physician by poison (see our 37th volume, p. 1061), that the accident occurred to Dr. Baber of Macou, in Georgia, U.S., and not to Dr. Bader of Macou, as stated in the *Gazette des Hôpitaux*, from which the paragraph in the Medical Gazette was extracted. We know that French journalists make frequent mistakes in names; but we are not acquainted with any certain rule for determining in what cases such mistakes are really made. The only course open to us is therefore to make the quotation, and give the authority for it.

We shall have great pleasure in inserting Dr. Rowland's paper on the Pathology of the Nervous System.

Dr. J. C. Hall's communication on Ligature of the Posterior Tibial Artery has been received, and will have early insertion.

Dr. C. H. Jones's paper on the Yellow Corpuscles of the Spleen will be inserted.

Mr. T. W. King's paper next week.

We have been compelled for want of space to postpone until the following number several communications which are in type, among others those of Dr. Coley and Dr. Storks. Also, the Report of the Proceedings of the Pathological Society:

The third lecture of Sir Benjamin Brodie's course on Diseases of the Spine will appear in the following number. We have to observe that the only authorized publication of this course of lectures is in the London Medical Gazette and the Lancet. The lectures as they are published in this journal are invariably corrected by Sir B. Brodie.

The following communications have been received:—Dr. Coley on *Porrigio Decalvans*, Dr. Camps on the Pathological Conditions of the Blood in *Plethora*, Dr. Moore on *Phagedenic Sphacelus* at *Feroseshah* and *Sobraon*, Mr. Power on the Constitution of Chloride of Lime, Mr. A. Healey, and Mr. Bradshaw.

We have not the least objection to insert the letter of "A Qualified Physician to a Public Charity": but we should like to have our correspondent's name in confidence.

NEW MEDICAL, SURGICAL, AND SCIENTIFIC WORKS.

^{I.}
Professor OWEN'S LECTURES on the COMPARATIVE ANATOMY and PHYSIOLOGY of the VERTEBRATE ANIMALS. Delivered at the Royal College of Surgeons in 1844 and 1846. Vol. 1, 8vo. with numerous Woodcuts, 14s. [N.]

^{II.}
The HUMAN BRAIN: its Structure, Physiology, and Diseases. By SAMUEL SOLLY, F.R.S. Senior Assistant-Surgeon to St. Thomas's Hospital, &c. 8vo. [Is.]

^{III.}
PRACTICAL OBSERVATIONS on some of the Diseases of the STOMACH and ALIMENTARY CANAL. By JAMES ALDERSON, M.D. F.R.S. late Senior Physician to the Hull General Infirmary. 8vo. [Is.]

^{IV.}
THOUGHTS on the NATURE and TREATMENT of SEVERE DISEASES of the HUMAN BODY. By EDWARD J. SEYMOUR, M.D. Senior Physician to St. George's Hospital. 2 vols. 8vo. [Is.]

^{V.}
A SKETCH of the SCIENCE of some part of SURGICAL MEDICINE. By JOHN PAINTER VINCENT, Surgeon to St. Bartholomew's Hospital. 8vo. [Is.]

^{VI.}
Dr. COPLAND'S DICTIONARY of PRACTICAL MEDICINE, Library of Pathology, and Digest of Medical Literature. [Part XI. 4s. 6d.]

^{VII.}
LECTURES illustrative of various subjects in PATHOLOGICAL SURGERY. By Sir BENJAMIN C. BRODIE, Bart. F.R.S. Serjeant-Surgeon to the Queen to H.R.H. Prince Albert. 8vo. 12s.

^{VIII.}
On the ANALYSIS of the BLOOD and URINE, and on the Treatment of Urinary Diseases. By G. OWEN REES, M.D. F.R.S. Assistant-Physician to St. Bartholomew's Hospital. 2d Edition. 8vo. 7s. 6d.

^{IX.}
HAND-BOOK of HUMAN ANATOMY, General, Special, and Topographical. Translated from the German of Dr. A. VON BEHR, and adapted to the use of the English Student, by J. BIRKBECK, F.R.C.S.E. Demonstrator of Anatomy at Guy's Hospital. 16s.

^{X.}
On DISEASES of the HEART. Lectures on Subjects connected with Clinical Medicine; comprising Diseases of the Heart. By P. M. LATHAM, M.D. Extraordinary to the Queen; and late Physician to St. Bartholomew's Hospital. 2 vols. 8vo. 12s.

^{XI.}
MESMERISM in INDIA; and its Practical Application in Surgery and Medicine. By JAMES ESDAILE, M.D. Civil Assistant-Surgeon, E.I.C.S. Bengal. Fcp. 8s.

^{XII.}
A PRACTICAL TREATISE on the DISEASES of CHILDREN. By J. M. COLEBY, M.D. Member of the Royal College of Physicians in London, &c. 8vo. 10s. 6d.

^{XIII.}
On DISORDERS of the CEREBRAL CIRCULATION, and the Connection between Affections of the Brain and Diseases of the Heart. By GEORGE M.D. Physician to St. Bartholomew's Hospital, &c. 8vo. with coloured Plates, 10s. 6d.

^{XIV.}
NOTES and RECOLLECTIONS of a PROFESSIONAL SURGEON. By the late WILLIAM FERGUSON. 8vo. 7s. 6d.

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CLINICAL FACTS and REFLECTIONS; also, Remarks on the Impunity of Murder in some Cases of Presumed Insanity. By THOMAS MAYO, M.D. Fellow of the Royal College of Physicians. 8vo. 8s.

^{XVI.}
CLINICAL COLLECTIONS and OBSERVATIONS in SURGERY; made during an attendance on the Surgical Practice of St. Bartholomew's Hospital. By W. P. ORMEROD, late House-Surgeon at St. Bartholomew's Hospital. 8vo. 10s. 6d.

Lectures.

LECTURES
ON
DISTORTION OF THE SPINE NOT
CONNECTED WITH CARIES.

*Delivered in the Theatre of St. George's
Hospital,*

By SIR B. C. BRODIE, BART. F.R.S.

LECTURE III.—Dec. 9, 1846.

THE treatment, which I described in the last lecture, is all that is required in the great majority of cases of spinal curvature, as to which you may be consulted. Where it is diligently pursued it will seldom fail either to remove the curvature altogether, or to reduce it so far as that it will not be noticed except by the critical eye of an anatomist. There are a few cases, in which, even though you have recourse to it at an early period, this treatment will be found to be insufficient, and you will find it necessary to have recourse to other means of relief or cure. The same observation is applicable to what may be called inveterate cases of spinal curvature—where the curvature has been neglected for some years, where you are not consulted until the patient is of that age that not more than one or two years remain during which it can be expected that any improvement in the figure will take place. You may lay it down as a general rule, that in any case in which the figure is so altered as that the distance of one scapula from the spinous processes is three times as great as that of the other, the curvature will not only not be removed, but will actually continue to increase if you act altogether on the simple means which I have already suggested.

Dr. Bouvier, of Paris, who has paid great attention to cases of this description, and has an establishment for the reception of young ladies affected with curvature of the spine, was (and I suppose that he is so still) in the habit of recommending that his patients should never walk, except on crutches of such a height that they should not be able to plant the entire sole of the foot on the ground, nor to stand except on tip-toe. The *modus operandi* is plain enough. It resembles that of the various climbing exercises. The weight of the upper extremities is taken off the spine, and that of the lower extremities tends to bring the vertebræ into a straight line, at the same time that all the muscles of the spine are kept in action. Whatever I have myself seen of the result of this

practice has been in its favour. But it is difficult to give it a fair trial in private families, and my experience of it is limited. I have heard it said that it has a tendency to raise the shoulders, and to make the patient what is called high-shouldered; but the same remark has been made as to some other exercises, of which I know that they produce no such effect in reality. I have also been informed, that the lateral pressure of the crutches has a tendency to flatten the ribs on the sides of the thorax. I suppose that this must depend a good deal on the manner in which they are used, and, at all events, that such a change in the form of the ribs will be produced only where the use of the crutches has been begun at an early age, and continued during a long period of time.

You will recollect the objections which I offered to the use of artificial support, in the cases not only of healthy girls, but also of those in whom there exists a moderate degree of spinal curvature. These objections, however, do not hold good with respect to inveterate cases of this kind. In fact, wherever there is a great degree of spinal curvature, the use of exercise and the recumbent position are of themselves quite inadequate even to prevent the increase of the distortion; and in such cases some mechanical aids are absolutely required.

Various kinds of apparatus have been contrived for this purpose. The principal requisites are, that it should be at the same time strong and light; that in all cases it should be so constructed as to take off the weight of the shoulders, and that in certain cases it should make a permanent pressure on the projecting or bulging ribs; at the same time, that the ribs in the opposite sides which are unnaturally depressed should be free from pressure altogether. These things can be accomplished only by means of a machine made of steel, well fitted to the pelvis on which it is to rest, with a crutch on each side, or something which will answer the purpose of a crutch in supporting the axilla; there being some additional contrivances for adapting it to those cases in which it is necessary to give support to the bulging ribs. Whatever some writers may have said formerly on the subject, there need be no apprehension of any ill consequences from the pressure made by the machine on the pelvis. Even in a case of rickets, I am inclined to believe that pressure may be applied to the pelvis in such a manner as not to occasion those ill consequences which follow the application of it to other bones. However that may be, in the cases which we are now considering the bones are not rickety, and you may be assured that there is no danger of harm being done to the pelvis.

Of the two machines which are placed on the table, one is made by Mr. Bigg, of Leicester Square. It has the advantage of lightness, and of being in no way inconvenient to the wearer. It takes off the weight of the shoulders sufficiently, and it admits of being easily adjusted to the alteration which takes place as the patient grows in height, or improves in figure. It is well adapted to those in which a moderate degree of support is required, but in which anything beyond this would be superfluous.

The other machine is made by Mr. Laurie, of Bartholomew Close. It supports the shoulders equally with the former. It gives a lateral support where that is required, that is, to the bulging ribs; at the same time that it leaves the other parts of the chest altogether free from restraint or pressure. It is not quite so light or convenient to be used as the other, but when carefully adjusted it is convenient enough, and in cases where the distortion is considerable it is very much more efficient.

The machine which has been described under the name of *Tavernier's lever belt*, consists of a large belt, which closely embraces the pelvis, having a steel busk, or lever, attached to it posteriorly, not at right angles, but somewhat inclined to the side opposite to that of the dorsal curvature, some leathern straps being attached to the leathern belt in front, and to the lever behind, in such a manner as to give support to, or compress, that side of the chest on which the bulging of the ribs has taken place, without in any way restraining the side opposite. The operation of it is therefore similar to that of one of the machines which I have just shown you, with this exception that it gives no direct support to the shoulders. The contrivance is ingenious, and, having the merit of simplicity, cannot fail to be preferable to most others, if it really answers the intended purpose. How far it will do so I cannot venture to say without a greater experience of its effects than I have hitherto had.

In whatever manner the necessary mechanical support is supplied, it must be borne in mind that it is not to supersede other methods of treatment. The machine should be taken off at bed-time, the use of it being resumed in the morning. It should also be taken off for two or three hours in the middle of the day, during which time the patient should be employed in some of the exercises described in the last lecture, lying down to rest at intervals. She should live as much as possible in the fresh air, and always lie down to rest when she returns home after walking or riding. The use of the machine being now begun, it should be continued until the period of growth is expired. The figure is then made for life, and, as I have

already explained to you, all further treatment is useless.

Other methods of treatment, in addition to that which I have just mentioned, have been recommended by some of those who are supposed to have paid particular attention to cases of this kind. Couches have been contrived, on which the patient may be laid during a part of the day for the purpose of having the spine artificially extended. One of these is the inclined plane which I have already mentioned. But a more effectual method of obtaining the same object is afforded by the couch invented by the late Mr. Shaw, and of which you will find an account in his works on spinal distortions. Such contrivances are chiefly useful in the cases of those patients who are not, in the first instance, strong enough to have recourse to the necessary exercises. But the same system has been carried further than this, the forcible extension of the spine being continued even during the night, and combined with lateral pressure on the bulging side of the chest and pelvis. Whether such a plan can, for any length of time, be pursued with safety, may be a matter of doubt; but of this I am satisfied, that it is productive of no advantage that is worth obtaining at the expense of so great a sacrifice of ease and comfort, and that, as to its being pursued in a private family, it is out of the question. Whatever good can be done, may be done by other and less objectionable means. I say "*whatever good*," using the term advisedly, for you must not yourselves expect, nor lead your patient or her friends to expect, too much. In the ordinary and slighter cases of spinal curvature you may generally succeed in removing it altogether, or so far that no one will observe it; it being of course understood that *the patient and her family give you their assistance, and that the plan which you propose is diligently pursued*. In the worse forms of spinal curvature you may generally succeed in very much lessening the deformity, and you may always prevent its further increase. Where there is an hereditary disposition to it, the removal of the curvature is more difficult than where no hereditary disposition exists. In such cases you must be cautious as to the promises which you make in the first instance. In cases of long standing, where you are consulted after many years of careless neglect, and where the patient has nearly attained her full growth, the utmost that can be expected is some very slight improvement. The vertebræ and the ribs are altered in their shape, and it is now useless to expect that their natural shape should be restored. It is by no means improbable that masses of new bone are deposited on the surface of the lumbar vertebræ, fixing them to each other: in other words, that they are

anched. In any case of considerable distortion you may form some notion as to the probability of your being able to render the patient service, in the following manner. Supposing her to be provided with one of those contrivances for mechanical support which I have already mentioned, let her height be measured against the wall before the machine is applied, and again afterwards. In some instances the application of the machine will cause an addition to the height of one or two inches, or even more than this; in others none at all. In the former case it is reasonable to expect that the figure may be improved, while little or no improvement is to be expected in the latter.

On adverting to my former lecture, I find that there are some points on which it would have been well that I had offered some observations, though I omitted to do so.

It is not unusual to find young persons affected with spinal curvature complaining of pain in the back and sides; and it seems not unreasonable to suppose that some such inconvenience may arise from the displacement of muscles and nerves from their natural position; but, on the other hand, we also find that these complaints are often made by those in whom the alteration in their figure is very trifling; and also that some of those in whom there is a considerable degree of distortion make none at all. I very much suspect that, in the majority of cases in which such pains exist, they are to be attributed to a weak state of constitution, and a general deficiency of nervous energy, rather than to any other cause; in fact, for a delicate young woman to refer pains to her back is as much a matter of course as it is for her to refer them to her head; and of those whom I have just mentioned, there are very few who will not tell you (if you ask them on the subject) that they have pains in the head as well as in the back. If this be the proper view of the matter, it is plain that, for the relief of these pains, you are to look not to local but to constitutional treatment.

I explained to you in the first of these three lectures, that, wherever there is much deviation from the natural figure of the spine, there must be a corresponding change in the position of the thoracic and abdominal viscera. Nor is this all. The viscera (the lungs and liver more especially) become actually altered in shape. We cannot but suppose that such alteration must interfere in some degree with the due performance of their functions. Nevertheless, it is not uncommon to see persons in whom a very considerable degree of distortion exists living to be old, and not apparently suffering in their health more than their more fortunate neighbours.

The lateral or (as Mr. Shaw has not improperly named it) the serpentine curvature is not the only kind of deviation from the natural figure of the spine about which you will be consulted.

In persons advanced in life the upper part of the spine is not unfrequently bent forwards, so that the spinous processes present a gradual curve posteriorly. This is the result of a habit of stooping forward, which may, I suppose, be itself traced to a deficient power in the muscles of the back and neck. But a habit of stooping from any other cause may produce the same effect. Dr. Potts shewed me the spine of a madman, a patient in a French hospital for lunatics, who was reported to have remained for many years with his head bent forwards, and in which such a gradual or hoop-like curvature exists in a very remarkable degree, the bones at the same time being unusually light, in consequence of their not containing the proper quantity of phosphate of lime. This last circumstance is in conformity with what happens in other cases. In proportion as bones are less exercised, so are they found to contain a smaller proportion of earthy matter.

This same kind of curvature is occasionally met with in young persons of either sex. The head and neck are bent forward, the whole spine, from the neck to the upper part of the loins, presenting a convex line posteriorly, there being at the same time an appearance of hollowness in the loins. This change in the figure of the spine may exist in various degrees, from that which is scarcely perceptible, to that which constitutes a disagreeable deformity. It may generally be traced to natural formation in the first instance: aggravated by a careless habit of stooping afterwards. In proportion as the head and neck are inclined forward, so must the back and the shoulders be thrown backward, in order that the centre of gravity of the trunk may be prevented from deviating too far from its proper place; and this sufficiently explains the peculiar appearance which I have called the *hollowness* of the loins.

So far as this state of things depends on original formation, it is needless to look for any remedy; nor, indeed, is the deformity such as to make it an object of much importance; but, so far as it is aggravated artificially by bad and careless habits, a great deal of good may be done by simple means, provided that you are consulted at an early period, and that the patient will use the necessary exertion to assist you in the treatment. If she writes or draws, it should be while she stands at a high desk; if she reads, her book should be placed at such a height that she need not stoop to read it. The same rule should be observed if she

uses her needle, or is engaged in any other kind of work to which girls are accustomed. A drill-sergeant, or a good dancing mistress, may render her much service.

Probably not less than thirty-five years have elapsed since the late Mr. Grant, of Bath, proposed, as a remedy for lateral curvature of the spine, that the patient should be in the habit of walking, balancing a weight on the head. It must be confessed, however, that in this last class of cases the remedy is of little value. If a light weight be placed on the head it contributes to increase the power of the muscles of the spine only in a very small degree. If a heavy weight be employed it increases the influence of one of the causes on which the curvature depends. In those cases, however, which are under our immediate consideration, this kind of treatment may be had recourse to with great advantage. A light weight should be placed on the crown of the head near the forehead, and the patient should accustom herself to walk balancing her head so that the weight may remain where it was placed. The weight then should be such as will easily fall off if she be not careful to prevent it. Nothing answers the purpose better than a book,—a very thin book is sufficient in the first instance, but a thicker one may be employed afterwards, as the muscles of the neck are made stronger by exercise.

In practice it is important that you should distinguish this kind of spinal curvature from that which is the result of caries of the bodies of the vertebræ. In both the curvature is in the same direction, but in the former it is always gradual, in the latter always angular. The only case in which there is any chance of error, even on a superficial observation, is where there is caries with considerable destruction of the bodies of the lowest cervical and upper dorsal vertebræ. Here the angular form of the curvature is not always to be perceived by the eye, but it is sufficiently plain to the touch. The neck, too, is absolutely shortened, and appears as if it had sunk downwards between the shoulders.

What I am about to mention is a thing of no importance in itself, and in fact is no disease at all; but I recollect being somewhat perplexed by it when I first met with it myself, and I have known others to be perplexed by it also. For these reasons I think it worth while to call your attention to it.

Women, as they advance in life, are liable to an apparent protuberance in the situation of the last spinal process of the neck. It generally occurs in those who are in, what is commonly called, good condition (*embon-point*), and seems to arise partly from the habit of stooping forward, and partly from an increased deposit of fat over that

part of the neck. Of course the care of the surgeon is here quite superfluous; but I have known this appearance to be mistaken for disease. In one case a caustic issue had been made on each side of the neck, and in another it was supposed that a tumor had formed which would one day require an operation! I call your attention to the subject merely that you may not fall into similar errors.

The case which I am about to relate affords an example of spinal distortion of a very different nature from those chronic affections which I have already described, being in fact the result of inflammatory action, and corresponding to those contractions which follow inflammation of the muscles or joints of the extremities.

A young gentleman, ten years of age, after some exertion in playing with his brother, was seized with severe pain referred to the left side of his neck, with inability to move his head, or even to open his mouth. The head remained bent to one side, so that the cheek almost rested on the shoulder. Inflammation followed, the left side of the neck being swollen, and exquisitely tender to the touch. Leeches and other remedies were had recourse to, and the inflammatory symptoms subsided. The neck, however, remained bent to the left side, and was in this state when I was consulted three months after the commencement of the attack. At this period all attempts to restore the head and neck to their proper position were ineffectual. Partly from the position which the parts had assumed, and partly from the wasting of the muscles, the transverse processes on the right side of the neck were unusually prominent, so as, in the first instance, to produce an impression on the mind that the vertebræ had been actually displaced, though a more rigid examination showed that there had been no displacement in reality.

Sir Charles Bell was consulted on the case with me, and we agreed in recommending a course of vapour baths, and shampooing. This plan was, I believe, carefully pursued. In the course of three weeks there was a perceptible improvement, and when I last saw the patient, about two years afterwards, the head and neck were very nearly restored to their natural position.

I conclude that the circumstances of this case are best explained by supposing that the inflammation induced by an apparently trifling accident had left the soft parts on one side of the neck in a rigid and contracted state. Probably, in the first instance, there might have been some laceration of muscular fibres. From the degree and extent of the inflammation which followed, we may, however, conclude, that, in whatever part it had its origin, it was not after-

wards limited to a single order of texture. I have known several cases in which precisely the same symptoms, and followed by the same results, occurred, independently of all kind of local injury. In one young lady they were the sequelæ of what was regarded as a simple continued fever: in others supervened on an attack of scarlet fever or measles. In all the cases which have fallen under my observation, the patients, after the inflammation has completely subsided, have derived benefit from the use of the vapour bath, friction, shampooing, and exercises. In some instances the relief has been complete, in others partial; the difference depending, as in cases of contracted joints of the extremities, on the amount of inflammation in the first instance, and on the time which has been allowed to elapse before the proper remedies were had recourse to after the inflammation had subsided.

Undoubtedly in the cases much more good is to be done by the employment of proper means for subduing the inflammation in the beginning, and thus lessening, if not preventing, the subsequent contraction, than by any system of treatment afterwards. I was called in to see a young lady twelve years of age, with Mr. W. Cathrow, of Weymouth Street, labouring under symptoms of acute inflammation on one side of the neck. There was severe and constant pain. The parts were tender to the touch. The head was bent towards the affected side, so that the cheek almost rested on the shoulder, and every attempt to restore the parts to their natural position aggravated the patient's sufferings. We prescribed the application of leeches and fomentations, and administered calomel combined with opium, so as to affect the gums, with occasional purgatives. Under this treatment a rapid amendment took place. The inflammation and pain subsided; and the pulse was reduced to the natural standard. After two or three months the only vestige of the disease was, that the neck was somewhat stiff, and still in a slight degree drawn to one side.

CASE OF SUPPURATION OF THE BLOOD, INDEPENDENT OF INFLAMMATION. BY J. HUGHES BENNETT, M.D.

THE statements of various authors that pus existed in the blood independent of any local inflammation, have hitherto been very vague, because no measures had been taken to ascertain whether the purulent-looking matter was really pus. The purulent collections found in the heart and blood-vessels by Jardin and Andral have been ascribed by Gulliver to the mechanical softening of fibrin. Dr. Bennett considered the following case valuable, as it would serve to demonstrate the existence of true pus, formed universally

within the vascular system, independent of local inflammation.

Case.—A man, aged 28, was admitted into the Royal Infirmary on Feb. 27th, 1845, under Dr. Christison. The leading features of his complaint were the existence of a tumor in the left hypochondrium, which had latterly given him pain. This tumor was ascertained to be owing to enlarged spleen. There was oedema of the lower extremities, but his general health otherwise was good. On March 15th he was attacked with febrile symptoms; pulse 110; he was pale, and had slight diarrhoea. March 14th, fever continues, but there is no prostration. On the 15th he died suddenly.

On examination four days after death, the blood throughout the body was found to be much changed; in the right cavities of the heart, pulmonary artery, and also in the large veins of the trunk, it was firmly coagulated, and formed a mould of their size and form. The clot was separated into a red or inferior, and a yellow or superior portion. The latter, when squeezed out of the veins, as was sometimes accidentally done when they were divided, resembled thick creamy pus. On the surface of the brain the veins and longitudinal sinuses appeared as if partly covered with pus, and partly with red coagulum. The vessels themselves throughout the body were perfectly healthy. The clot was nowhere adherent, but, on the contrary, readily slipped out of the vessel when an accidental puncture was made in it. The liver and spleen were enormously enlarged, owing to simple hypertrophy. The former weighed 10 lb. 12 oz.; the latter, 7 lb. 12 oz.

On examining the blood microscopically, the yellow coagulum was found to be composed of coagulated fibrin in filaments, intermixed with numerous pus-corpuscles, which could readily be squeezed out from it when passed between glasses. When it was unusually soft, the corpuscles were more numerous, and the fibrin was broken down into molecules and granules intermixed with broken pieces of the filaments. The corpuscles varied in size up to the $\frac{1}{100}$ of a millimetre in diameter. They were round, had the cell-wall granular, and presented all the appearance of pus-globules. That they really were such was proved by the action of water and acetic acid, the former of which caused them to swell and lose their granular appearance, whilst the latter dissolved the cell-wall and caused a distinct nucleus, like that in the pus globules, to appear. On stripping off a portion of the pia-mater, and examining the capillary vessels of that membrane, they were found crowded with the same corpuscles. This fact was confirmed by Dr. Allen Thomson, to whom a portion of the brain was sent.—*London and Edin. Monthly Journal.*

Original Communications.

A COLLECTION OF FACTS ILLUSTRATIVE OF
THEMORBID CONDITIONS OF THE
PULMONARY ARTERY,AS BEARING UPON THE TREATMENT OF
CARDIAC AND PULMONARY DISEASES.

BY NORMAN CHEVERS, M.D.

[Continued from last volume, p. 1093.]

MALPOSITION OF THE PULMONARY ARTERY.

THERE are several species of congenital malformation of the heart in which the principal error is found to consist in an unusual mode of origin of one or both of the great arterial trunks. Thus (1), the pulmonary artery has been found to take its origin from a small supplementary right ventricle. (2), both aorta and pulmonary artery may arise in a similar manner from a kind of third ventricle. (3), the artery which supplies the lungs may arise as a branch from the aorta. (4), the aorta and pulmonary artery occasionally arise from the right ventricle; and (5), in other cases, they proceed from the left ventricle*. (6), the aorta may be situated over an opening in the *septum ventriculare*, while the pulmonary artery arises from the left ventricle. (7), the position of the ventricles, and of their corresponding vessels, is sometimes found to be transposed; and, lastly (8), the pulmonary artery may originate from the systemic ventricle, while the aorta arises from the pulmonary ventricle. To render the nature of these malformations sufficiently clear it will be necessary to consider each species briefly in detail.

(I.) *The pulmonary artery originating from an additional right ventricle.*

A description has already been given of cases in which contraction of the pulmonary orifice was attended with a dilatation of the infundibular portion of the right ventricle, apparently in consequence of the resistance offered to the circulation by the rigid condition of the diseased ostium†. But there also exists a class of cases in which the pulmonary artery is found to arise from a supplementary right ventricle, quite independently of any apparent lesion in the structures of the vessel itself. This kind of malformation probably depends on an irregular development of *carneæ columaræ* or musculi

* Allusion has already been made to those cases in which the pulmonary artery takes its origin from both ventricles.

† Cases by Dr. Crampton (p. 457), and Drs. Aran and H. Bennett (p. 699).

pectinati at the time when the formation of the proper ventricular septum is in progress (as illustrated in cases by Dr. T. Thompson and Dr. Fletcher, p. 833). An instance of this malformation, observed by Mr. Holmsted, has been cited at p. 700, as illustrative of the causes which may prevent the free entrance of blood to the pulmonary artery. The following is an example of a very similar malformation:—

Dr. Farre describes the preparation of a heart in the museum of St. Bartholomew's Hospital, in which the right and left ventricles are equal in muscular substance, and the valves natural. The aorta, which is of its natural size, arises over the *septum of the ventricles*, opening equally into both ventricles. Two apertures in the right ventricle communicate very freely with a very small third ventricle, from which the *pulmonary artery*, correctly formed, and of its usual size, arises. The *auricular septum* is perfect. From the appearance of the heart, Dr. Farre considered that the age of the subject exceeded 14 years.

(II.) *The pulmonary artery and aorta originating from a supernumerary ventricle.*

Mr. J. Bell (cited by Dr. Burns) has given an account of a heart in which "both the *pulmonary artery* and the aorta arose from a middle or third ventricle. The right and left ventricle were in every respect correctly formed, and received their blood from their auricles in the usual way, but delivered it into the third ventricle."

It is possible that this malformation may have depended upon some irregularity in the process of development of the ventricular septum, but it appears to be by no means improbable that the supernumerary cavity was in reality the remains of the *bulbus arteriosus*—an arrangement of parts which appears to compensate in some measure for a defect in the ventricular septum, but which is invariably absent where the ventricles are completely separated.

(III.) *The pulmonary artery arising from the aorta.*

Instances of several varieties of this species of congenital defect have been cited at the commencement of this paper*, but, as malposition of the artery which supplies the lungs is one of the most characteristic features of a very rare and interesting kind of cardiac malformation, I cannot omit the following remarkable example:—

Dr. Carson relates† the case of a child which was well developed at its birth, and which, for two or three days afterwards, appeared to be in perfect health, with a

* Page 276, et seq.

† Edinburgh Medical and Surgical Journal, Vol. lxiii. p. 134.

natural colour of the skin. On the third day it was unusually soporose, sighing frequently, and the respiration was more hurried than usual; it also ceased to take the breast, and Dr. C. remarked an unusual dark colour of the skin. On the fourth day it appeared to be in a profound sleep, breathing rather hurriedly, and frequently sighing deeply. There was no fever, nor any remarkable diminution of temperature. On applying the ear to the chest, the heart's sounds were found to be rather hurried, but their succession was regular: the whole body was of a dusky hue, resembling that of a dark-complexioned person. The child died on the fifth day. Slight effusion was found in the pericardium; there was one large artery given off from the heart, and from this the *pulmonary artery* sprang. The thus-united aorta and pulmonary artery was considered to be larger than the aorta of so young a child. It proceeded from a large ventricle, which appeared, at first sight, to constitute the whole of the ventricular portion of the heart. The systemo-pulmonary artery was separated from the ventricle by semilunar valve (valves?), and from a very large auricle by a tricuspid valve. Into this auricle opened, by three orifices, three pulmonary veins. The size of the two *venæ cavæ* led Dr. C. to think that one of these three veins might be systemic. The large auricle communicated, by a small opening, with another auricle about the size of a small horse-bean, into which entered the two *venæ cavæ*, each not above two lines in diameter. This small auricle communicated with a cavity of the size of a swan-shot in a fatty muscular mass upon the side of the large ventricle, constituting with it the whole ventricular mass, and evidently being the representative of the right ventricle. This and the right auricle were separated from each other by small cobweb-like membranes representing the auriculo-ventricular valve.

It is probable that the vessel which supplied the lungs in this case was not a true pulmonary artery, but was in reality the ductus arteriosus. The heart appears to have presented an extreme degree of that kind of malformation in which, obliteration of the ascending pulmonary artery occurring subsequently to the completion of the ventricular septum, the right ventricle, being no longer required to propel blood to the lungs, becomes extremely contracted, and the ductus arteriosus performs the office of the pulmonary artery*.

(IV.) *The aorta and pulmonary artery arising from the right ventricle.*

In the early part of this essay a description was given of those cases in which the

pulmonary artery is found occupying its natural position, but is either obliterated or greatly contracted at its origin, and in which the aorta also arises from the right ventricle; in addition to these, there appears to be a class of cases in which, independently of any remarkable contraction of either vessel, the aorta and pulmonary artery originate from the right ventricle.

Dr. Paget* refers to a case of this kind, and quotes a similar example related in the Arch. Gén. de Médecine, T. xxiii. In a case which has been briefly related by Dr. F. Ramsbotham†, both the aorta and the *pulmonary artery* arose from the right ventricle, there being a communication between the ventricles by an *orifice in the septum*. There was no appearance of lividity in the child, except that the lips were usually pale, and the fingers occasionally appeared of a blueish-grey colour. The child died suddenly at 10 years of age. She was healthy until the age of 2 years, when exertion caused some shortness of breath. She was of a lively, placid disposition; the pulse was rapid and small; the pulsations in the carotids could be distinctly observed. She lay on her back, or on the left side, with her legs drawn up to the body, and the back bent to a semicircle. The appetite and general health were good. The sensation to the hand applied over the heart was that of a sawing, and to the ear that of the purring of a cat. Twelve months before her death she became much emaciated. The appetite was greater than natural; the skin dry; the heart laboured in its action; and the respiration was much hurried, and was attended with a short irritating cough, without expectoration. She was (latterly?) unable to lie down. At length the face and lower extremities became anasarctous. She expired suddenly, jumping up as if she had been frightened.

(V.) *The pulmonary artery and aorta arising from the left ventricle.*

There appear to be three cases of this description on record, but I have only been able to meet with the following example‡:—

M. Maréchal and M. Carré examined the body of an infant 3 months old which died with all the symptoms of the blue disease. When the child was six weeks old, its lower extremities and abdominal parietes became oedematous—a condition which twice

* Op. citat. p. 294.

† Med. and Physical Journal, Vol. lxvi. p. 548.

‡ In addition to M. Maréchal's case, Otto refers to an instance related by K. Hoffman, in the New York Medical and Physical Journal; and also to one by M. Mery, in the Mémoires de Paris, 1700; but I have in vain sought for the latter case in the Memoirs of the Academy of that period. Dr. Paget also makes brief allusion (Op. citat. p. 294) to an instance of the kind.]

* See the case by Dr. W. Hunter, and other instances, cited at p. 280.

yielded to the use of tincture of digitalis. It was found, on examination, that the peritoneum did not contain any fluid; the liver was larger than natural; the pleural and pericardial cavities contained a notable quantity of yellow serosity; the heart, especially its auricles, was, with its vessels, distended with dark blood. The aorta and pulmonary artery appeared to originate from the same cavity. The latter divided into two branches, which supplied the right and left lung; the *ductus arteriosus*, which arose from the left branch, was sufficiently open to admit an ordinary probe. The left ventricle presented at its base the orifice of the aorta, furnished with sygmoid valves; and, to its right, at the distance of three lines, that of the *pulmonary artery*, which was destitute of valves. Below the aorta, an auriculo-ventricular valve, divided into two portions, formed a canal capable of admitting the end of the fore finger, communicating with the left auricle, which formed a common cavity with the right auricle. Below the orifice of the pulmonary artery there was an opening about three lines in diameter, furnished with a kind of valve formed by a fold of endocardium: this opening communicated with the auricular cavity, and, at its upper part, was partially separated by a thick prominence from the orifice of another cavity of small size, which was the rudiment of the right ventricle.*

(VI.) *The aorta arising from both ventricles, the pulmonary artery from the left.*

The malformation described in the following case appears to form an intermediate link between that in which both arteries arise from the left ventricle, and that in which the aorta arises from the right ventricle and the pulmonary artery from the left:—

Dr. Wilmer Worthington relates the case of a female child which had from birth been liable to almost daily attacks of oppressed breathing, attended with blueness of the skin and nails. Some time before its death, which occurred at the age of 22 months, it began to emaciate, and had occasional cough and diarrhoea. On examination, the right auricle was found to be very small, and it exhibited no appearance of *musculi pectinati*. The pulmonary veins opened into this cavity, and the auricle appeared to be merely a dilatation of these vessels. There was no opening between this part of the heart and the right ventricle. The *foramen ovale* remained open, so that the blood from the lungs passed directly through this opening into the left auricle. This cavity was larger than natural, and presented the usual appearance of *musculi*

pectinati usually found in the right auricle. The ostium venosum existed on the left side of the heart, with its usual valves. The ventricles were of the ordinary size and thickness. Their interior structure presented the usual appearance. The aorta arose from the right and left ventricle by a spreading mouth, which formed a communication with both these cavities, the *ventricular septum* being deficient immediately under the mouth of the aorta. The aortic valves were wanting. The *pulmonary artery* arose from the left ventricle, at a short distance from the aorta. No *ductus arteriosus* existed, this passage, as Dr. Worthington remarks, being unnecessary on account of the pulmonary artery and aorta proceeding from the same cavity.*

It is probable that the primary lesion, in this case, was obliteration of the right auriculo-ventricular opening. In several particulars this instance bears an interesting resemblance to one related by Dr. Favell, and cited in a previous chapter.† In that example, however, the pulmonary artery arose as usual from the right ventricle.

(VII.) *Complete transposition of the cavities and vessels of the heart.*

In many cases of complete or partial transposition of the thoracic and abdominal viscera, the pulmonary cavities of the heart, with the pulmonary artery and *cavae*, are found to be situated on the left side of the thorax, while the systemic auricle and ventricle and the aorta are placed on the right side. In these cases the aorta and pulmonary artery arch to the right. The following examples will sufficiently illustrate this species of malformation:—

Meckel (filius) describes and figures‡ a specimen, preserved in his father's museum, in which the base of the heart is situated to the left, and its apex to the right. The *cavae* were situated on the left side; the pulmonary auricle and ventricle were also to the left. The aortic ventricle was on the right side. The *pulmonary artery* was situated anteriorly to the aorta, which arched to the right, and descended on the right side of the dorsal vertebræ. The positions of all the other thoracic and abdominal viscera were reversed.

M. Parisot, of Nancy, relates§ the case of a man, *ætat.* 29, in whom the heart occupied the right side of the thorax, the aortic ventricle lying to the right and the pulmonary ventricle to the left side. All the divisions of the circulating system followed the same transposition. The aorta was placed to the right, and was crossed by the *pul-*

* American Journal of the Medical Sciences, vol. xxii. p. 131.

† Page 828.

‡ De Cordis Conditionibus Abnormibus, p. 4, Tab. 1, 1802.

§ Archiv. Gén. de Méd. June 1839, as quoted in Edinburgh Medical and Surgical Journal.

* Journal Gén. de Méd. t. iii. de la 2^e série, p. 354, Dec. 1819, quoted by Gintrac, p. 173.

monary artery, which passed from left to right, and the thoracic and abdominal aorta descended on the right side of the vertebral column. The other viscera of the chest and abdomen were also transposed*.

It does not appear that this kind of deviation from the natural position of the several parts of the circulatory apparatus has any tendency to shorten the lives of the individuals in whom it occurs†.

This peculiarity has been observed in the bodies of adults of all ages who do not appear to have suffered from any symptoms of thoracic obstruction. Dr. P. A. Jewett relates an instance of this kind‡ in which the individual lived to the age of 65 or 70 years. In fact, the transposed viscera are usually so well-formed, and so symmetrically placed, in these cases, that the peculiarity of their situation can scarcely be regarded as a defect. There also appear to be some instances of malformation in which the cavities of the heart occupy their natural situation, while the main arteries pass over to the right side of the chest instead of to the left.

The cases of the above class are altogether distinct from those in which the pulmonary artery arises from the systemic ventricle, and the aorta from the pulmonary ventricle. The different varieties of that remarkable species of malformation will form the subject of the ensuing chapter.

A CHILD BORN ALIVE AT THE FOURTH MONTH AND A HALF OF PREGNANCY.
M. MAISONNEUVE lately communicated to the Surgical Society, the case of a female who aborted at the fourth month and a half of pregnancy. When he was called to her, the ovum had been expelled, with its membranes, for about two hours. On dividing the membranes and examining the foetus, he found, to his surprise, that it was still moving. He applied warmth, and in some degree succeeded in resuscitating it, for in a few minutes the respiratory motions were performed with regularity, but the child died in about six hours.—*Journal de Médecine*, 1846.

* For other cases of this transposition, see Haller, de C. H. Fabrica, T. ii. Lib. iv. § 4, p. 89; and Dr. Darling, in New York Journal of Medicine, p. 378.

† A case is mentioned in the New Orleans Medical Journal, and quoted in the Dublin Medical Press, Vol. 13, p. 202, of a male negro slave, ætat. 25, in whom the stomach, liver, and spleen, and the thoracic viscera, were found to be respectively transposed; the heart occupied the right side of the chest, but no allusion is made to the manner in which its large vessels were given off. There was extensive adhesion between the heart and pericardium, and death had been caused by rupture of the right auricle, but nothing is said with regard to the condition of the valves and cavities of the heart. It is probable that in this case the cardiac lesions occurred quite independently of the peculiar arrangement of the thoracic viscera.

‡ New York Journ. of Med. May 1844.

OBSERVATIONS ON THE DISEASES OF CHILDREN.

By JAMES MILMAN COLEY, M.D.

Licentiate of the Royal College of Physicians, and
Physician to the Western Dispensary.

[Continued from page 927, Vol. xxxviii.]

Typhus Fever.

THE fever succeeding that form of cholera which is accompanied with alarming collapse, and followed by inflammation in the mucous membrane of the duodenum, is of the nature of typhus. The tongue is covered with a dry, dark, brown fur; the functions of the sensorium are disturbed with stupor alternating with delirium, the natural secretions are interrupted, and the process of nutrition is entirely suspended. The cerebral disturbance usually commences with imperfect sleep, which is frequently interrupted with delirium or some confusion of the mind, and no natural repose is enjoyed in the most favourable cases in less than eight or ten days. The same symptoms are found to succeed that species of dysentery which commences with dangerous oppression of the vital powers. In both instances the subsequent inflammation and fever are modified by the primary attack and the constitution of the patient, in infants as well as adults: and in some cases the disease is complicated with subacute bronchial inflammation. The concomitant fever, whether arising from vascular derangement in the intestinal or bronchial mucous membrane, being essentially connected with disturbance in the circulation of the brain, is always, in consequence of such association, more or less of a remittent character; and as long as the cerebral excitement, which, it must be observed, is of an inflammatory character, continues, the patient is deprived of refreshing sleep. A similar loss of sleep, together with a remission in the fever, are observable in primary subacute inflammation in the cerebral membranes, particularly the arachnoid, arising from mental or other causes disturbing the circulation of the brain. In the typhus following cholera or dysentery, the febrile excitement occurs three or four times in the course of every twenty-four hours.

the most remarkable accession appearing in the evening. This tendency to intermission appears to me to be attributable to the malarious origin of the disease, which becomes modified by the succeeding membranous inflammations. A dull pain across the forehead generally accompanies the other symptoms of cerebral disease; and this, if not relieved, is soon succeeded by stupor. The patient is seldom able to stand or walk, and complains of vertigo when placed in the upright position. The bowels are usually relaxed, and the discharges from them offensive; but after the stupor has advanced to a degree of unconsciousness approaching to coma, constipation is often present. Involuntary evacuations from the bladder and rectum, and continued delirium, attended with flushing in the face, supervene in the most unfavourable cases, and are generally fatal symptoms, inducing effusion or other disorganization in the brain. The pulse throughout the disease is small and frequent. The temperature of the body is not much elevated above the natural standard, except during the febrile paroxysms, when considerable heat may be felt on the head and abdomen, these being the seats of the inflammatory action and nervous excitement. At these periods the face becomes flushed, and the hands and feet participate, more especially with the general increase of heat which follows. Restlessness is also present, the patient sometimes turning involuntarily from one side of the bed to the other, and unconsciously tossing his arms and legs.

When the vascular excitement is concentrated more particularly in the basis of the brain, paralysis of the sphincters, or of the muscles of the larynx concerned in articulation, takes place; and in the decline of the disease, periodical convulsions of the voluntary muscles of the trunk and extremities sometimes occur. These involuntary muscular movements, which appear as the result of inflammation in the nervous centres connected with volition, are invariably excited by every febrile paroxysm; and as they continue to recur and become habitual, unless removed by proper remedies, after the brain has resumed its proper functions, it is probable that such recurrent derangement

in the voluntary muscles is protracted by the inflamed or disordered state of the cerebellum, which appears to be designed to regulate and control the muscles subservient to volition. The stammering, hesitation, and indistinctness in articulation, and the utterance of words having no connection with the ideas they are intended to represent, observable in these cases, are probably owing to the same want of co-ordination in the exercise of the faculty of volition, which is only found in a state of perfection while the cerebellum remains unimpaired. One of my patients was unable to articulate distinctly during three months after the decline of the fever. In some children convulsions or hemiplegia occur; and when the inner coat of the colon or lower portion of the ileum is the seat of inflammation, opisthotonos or emprosthotonos is liable to appear. Partial deafness generally appears as the fever advances, which may also be traced to some vascular disorder or its effects in the course of the sentient portion of the auditory nerve. As long as the cerebral membranes, or the mucous coat of the duodenum, or any other portion of the intestinal canal, continues inflamed, the skin on the surface of the body remains dry and contracted, and the subjacent adipose membrane becomes rapidly absorbed, for the purpose of supporting the system during the long period of inactivity which prevails until recovery commences, which is discovered by a return of the natural softness and moisture of the integuments, and of healthy secretions from the alimentary canal. During this state of temporary emaciation, the pressure occasioned by decubiture is accompanied with inflammation, excoriation, and sometimes sloughing, of the integuments covering the back, hips, and the projecting portions of the scapulæ. As long as inflammatory action continues in any portion of the alimentary canal, the proper functions of its secreting surface are suspended, in compliance with a law of the animal economy, which renders healthy secretion impossible in any organ affected with inflammation.

A morbid condition of the atmosphere has unquestionable influence in the production of cholera and typhus, by predisposing those exposed to cold or moisture, at particular seasons and

in particular localities, to the invasion of fever of the typhoid character. In all these cases we shall discover that the disease has been produced by a degraded condition of the vital powers, generated by a residence in a locality in which the patient has been inhaling an atmosphere impregnated with malaria. In its more severe forms and its latter stages, such fever becomes also contagious in crowded and ill-ventilated habitations, from the concentration of poisonous aeriform particles separated from the blood and emitted through the pulmonary and cutaneous capillaries of the patient. The impurity of the atmosphere contaminated by stagnant water containing vegetable matter in a state of decomposition, is said to be owing to the evolution of carburetted hydrogen. The constant inhalation of air containing an undue proportion of carbon in this elementary form, may have the effect of impeding the process of decarbonization in the pulmonary air-cells, and gradually vitiating the product of chylification and the generation of blood-globules, by disturbing their elementary changes during their transmission through the lungs.

The morbid appearances which I have found on dissection after death, in the cases of typhus fever proceeding from cholera, consist of inflammation and sometimes softening of the mucous membrane of the duodenum, or of the upper portion of the ileum. In some cases I have found the cæcum also in a state of inflammation; but in no instance have I met with ulceration or other disease in the portion of the ileum adjoining the former intestine. When the fever has been attended with remarkable atrophy, preceded by a cachectic state of the patient, I have seen the small intestines entirely deprived of cellular membrane, and so attenuated as to have become nearly transparent. In such instances the mucous membrane has become soft, tender, and in some places abraded, without any evidence of adjoining inflammation; whence I conclude that this appearance is owing to the decay or loss of vitality consequent on long-continued innutrition, which may be the cause of those appearances resembling ulcerations which others have described as having been observed at the termination of the ileum after

typhus fever. The sequelæ of this disease which I have noticed in the brain have consisted of inflammation in the pia mater, generally at the basis of the cerebrum or cerebellum; and when the fever has terminated with convulsions or paralysis, I have discovered effusion of serum on the pons varolii, or within the ventricles.

Treatment.—When pain in the forehead or stupor is present, leeches should be applied to the temples, and these should be succeeded by an evaporating lotion to the head; and during the paroxysms of the fever the bed-clothes should be diminished, and the hands and face sponged with cold or tepid water. While this primitive or inflammatory stage continues, no attempt should be made to interfere with relaxation of the bowels, should that exist, as a sudden interruption to this salutary evacuation would be followed by a speedy and probably a fatal increase of the cerebral affection. As this purging is occasioned by a continuance of the inflammation in the intestinal mucous membrane, which had preceded and originated the fever, no preparation of antimony will be admissible. The patient should take citrate of potash, or acetate of ammonia, once in four hours, should be confined to bed, and should be permitted to enjoy as much fresh air as convenient by a judicious ventilation, and strong light should be excluded from his apartment. When pain accompanies or precedes every evacuation from the bowels, from 20 to 30 grains of sulphate of magnesia should be administered once in four hours, until the pain has subsided. The diet at this period must be confined to barley-water with gum arabic, or rice-water, or milk and water, or thin arrow-jelly; and all stimulants must be prohibited. Should not the pain in the head be relieved by the leeches, a few grains of hydrargyrum cum cretâ may be advantageously given with every dose of the citrate of potash, and the leeches may be repeated once or twice while this symptom continues. This active treatment at the commencement will contribute to mitigate the subsequent cerebral disease, and to shorten its duration. After some relief has thus been afforded, the loss of sleep will attract the notice and excite the solicitude of the attendants. As long as the stage of

vascular excitement, and the dry and contracted state of the skin continue, no solicitation should induce the physician to administer opium, nor any hypnotic medicine, for the same reason that he should avoid their exhibition during the inflamed condition of the mucous membrane of the bowels. Although the loss of sleep may continue eight or ten days, no injury will arise from it while the stage of excitement remains; and the patient will scarcely be conscious, after his recovery commences, that he has suffered any inconvenience from the long absence of natural repose.

As soon as the stage of collapse commences, which may be known by the moist and soft state of the skin, and by the healthy appearance of the evacuations, wine and water, or beer, may be given the patient in small quantities with advantage; and a small dose of disulphate of quina, or infusion of gentian, may be prescribed three or four times a day. Before this salutary change occurs, every preparation of bark will be inadmissible in this form of typhus; and should not the symptoms of chorea, when they occur, soon subside, but, on the contrary, appear periodically, and not be found to give way to the exhibition of quina, a moderate dose of arsenite of potash may be prescribed once in six or eight hours, with the prospect of removing the disease.

The inflammation in the cutis produced by pressure will be best relieved by the application, three or four times a day, of the undiluted liquor plumbi diacetatis; and when sloughing unavoidably occurs, the ulcerated parts should be dressed with ung. hydr. nitrico-oxydi. When the disease is complicated with bronchitis, leeches must be applied on the upper part of the chest, and repeated until the rattling respiration peculiar to the latter affection has subsided.

CASE.—J. S., æt. 6, was admitted a patient of the Western Dispensary on Nov. 4, with typhus fever, which had succeeded cholera. He complained of pain in the head, and was generally in a state of muttering delirium. He had also some bronchial inflammation, and his bowels were confined. The delirium was accompanied with a moaning noise at times. I prescribed leeches to one of the temples, a draught com-

posed of salts and senna, and afterwards squill, with acetate of ammonia, once in four hours. On the 7th the moaning had nearly subsided, but no proper sleep had been observed to take place. The fever, although constant, was subject to several exacerbations, especially towards evening, every day. The stools were of a dark colour, and slimy; the cause of which I intend to explain on a future occasion. On the 8th retention of urine commenced, and continued fifteen hours. The pupils were dilated; muttering delirium was present, accompanied with restlessness, the patient constantly moving about in different directions. He was generally in a state of delirium, but was able to answer questions with hesitation. The pulse was very rapid and feeble. On the 9th the stools and urine were passed involuntarily, and the tongue was coated with a dark-brown dry fur. During the intervals of the febrile paroxysms the patient appeared rather animated, and conscious of every thing surrounding him, but always screamed or appeared to be distressed when the febrile heat and the stupor began to approach. Dysphagia commenced. On the 10th the difficulty of swallowing increased, the pupils were more widely dilated, but the patient could still with great hesitation answer questions. On the 12th the patient died.

Post-mortem examination made 12 hours after death.—The mucous coat of the duodenum throughout its whole extent was of a bright red colour, and the same appearance of inflammation existed in the inner coat of the ileum, except towards its termination. The inflammation in the ileum was denoted by a dark discoloration observable through its serous coat, in consequence of the extreme tenuity of the intestine. No ulceration was found in any portion of the intestinal canal, and the stomach, jejunum, and colon, were free from disease. The colon through its whole extent was remarkably contracted. On examining the brain, the plexus choroïdes on each side was much more vascular than usual. No fluid was found in the ventricles, but about an ounce of serum was effused on the basis of the brain, and the pia mater at that part was of a deep red colour.

47, Chester Square,
Dec. 17, 1848.

**TUMOR OF THE TESTICLE,
SITUATED IN THE INGUINAL CANAL—
EXTIRPATION.**

BY ROBERT STORKS, ESQ.

AT a late meeting of the Royal Medical and Chirurgical Society, Mr. Arnott laid before the Fellows the particulars of a case which he has met with in every respect analogous to the one I am about to relate. On that occasion I was unfortunately absent from the Society, but Mr. Fergusson (whose valuable opinion and kind assistance I had during the treatment of the patient), having mentioned that a similar example had occurred to me, I am induced to think that the history of a case of such acknowledged rarity may not be devoid of interest to the profession generally.

J. K. æt. 34, applied to me, December 15th, 1845, at the suggestion of Dr. Burslem, with a large oval tumor the size of a cocoa-nut in the left inguinal region. He stated that the testicle on the left side never having descended into the scrotum, has always occupied the situation of the present swelling: ever since he can recollect it has been rather larger than its fellow of the opposite side, but he never experienced any inconvenience from it until the beginning of last September, about which time it began suddenly to enlarge, and has continued increasing up to the present time. He is the father of seven children, and has been very intemperate in his habits.

On examination, a large ovoid swelling (evidently consisting of the testicle, which is absent on that side from the scrotum), presented itself, extending from the left external abdominal ring upwards and outwards over the course of the inguinal canal. The tumor was moveable and elastic to the touch; the more so, probably, from the presence of some fluid which no pressure would displace. He experienced no pain in the loins or testicle unless the latter was roughly handled. On his urethra being examined it was found to be healthy. His tongue was furred; pulse 96, and weak. He was directed to take 3 grains of the iodide of potass with bitter infusion three times in the day, and 5 grains of the compound calomel pill night and morning, and to rub in an ointment

containing a drachm of the iodide of potass to an ounce of lard.

This treatment was persevered in until the 30th of January, 1846, when the tumor having decidedly increased in size I determined upon removing it, supposing the testicle upon an opening being made into the tunica vaginalis was found to be in the condition I anticipated. An incision five inches in length being made over the long axis of the tumor, the tunica vaginalis was exposed, punctured, and the fluid contained in it evacuated. On introducing the finger into the aperture thus made, it was found that the gland itself was so much enlarged that no doubt could exist as to the propriety of its removal. The operation was therefore completed by the testicle and tunica vaginalis (the communication between which and the peritoneum I found closed) being separated from the surrounding parts, and the cord previously secured by the finger and thumb of an assistant, divided. A superficial vein (the superficial epigastric), which was varicose, and corresponded with a similar one on the opposite side, was necessarily divided, the hæmorrhage from which rendered a ligature necessary; two arteries were tied, cold water dressing applied, and the wound left undressed for several hours. Secondary bleeding took place during the afternoon, and required four ligatures to command it. In the evening the edges of the wound were approximated by four points of the twisted suture, and the cold water dressing reapplied. The whole wound united by the first intention; two of the needles were withdrawn on the third day; the remaining two were left until the fifth day, as they produced no irritation. The ligatures separated on the 10th Feb. On the 19th he was following his usual occupation, and appeared in much better health.

On a section being made of the tumor no trace of the normal structure of the testicle could be detected, but it presented all the characters of medullary sarcoma when seated in the testis; "cellular septa filled with pulpy matter."

October 1st.—Applied to me with a large hard tumor, causing him at times excruciating pain, situated in the left hypochondriac, lumbar, and umbilical regions. I have seen him at intervals since, and he is at present under the

care of Dr. Nairne at St. George's Hospital. There can be no doubt of the tumor in the abdomen being a return of the disease in that locality, under which he is rapidly sinking, according to a report Mr. H. Stewart (Dr. Nairne's clinical clerk), has kindly sent me.

Several points of interest arose in the treatment of this case, depending upon the abnormal position of the testicle. The weight, the size, the consistence of the solid tumor, were unappreciable previous to the exploratory incision, and the diagnostic indications they were capable of affording, consequently lost. Its rapid growth, an important test of the character of a tumor, induced me to take the unfavourable view of the case, which the operation and the subsequent result have unfortunately borne out. The operation itself did not resemble the ordinary proceeding of castration, the inguinal canal being laid open to the internal ring. It was difficult to divest the mind of the possibility of a communication still existing between the peritoneum and the tunica vaginalis; the fluid, however, contained in the latter materially assisted in settling this point, and the diagnosis was fully borne out by the operation. The infundibuliform process of the fascia transversalis was visible on the testicle being separated; no difficulty was experienced in securing the vessels of the cord, although I anticipated some trouble from its extreme shortness. The tunica vaginalis was removed under the impression that its presence might retard the healing of the wound, should it continue to pour out its natural secretion, and its removal did not appear to me to increase the chances of peritonitis.

Few but will admit the necessity of an exploratory incision in a similar case to this, without which, from the unyielding structures and the fluid situated over the swelling, no satisfactory information could be obtained by any manual examination of the testicle or spermatic cord, or, indeed, of the nature of the disease.

Admitting the necessity of such an exploratory proceeding, there can, I think, be no doubt as to the propriety of removing the gland; the history of malignant disease contains many examples of the lamentable re-

sults that follow surgical interference with similar growths when inflammation is excited in their vicinity, or when portions of the diseased structure are allowed to remain. Although the shortness of the cord, the injury inflicted upon tissues immediately in contact with the peritoneum, and the possibility of some small communication existing between the tunica vaginalis and the cavity of the abdomen, all tended to increase the difficulties and subsequent dangers of the operation, they did not appear to me to offer insuperable objections to its performance; more especially as the last and most important obstacle was ascertained with almost absolute certainty, previous to the performance of the operation, not to exist.

I shall not here enter into that *vexata questio*, the propriety of operations for malignant disease; further than to express my conviction that it is a question rather for the decision of the patient than the surgeon, when the morbid mass is so situated that it can be *entirely* removed, when the glands are uncontaminated, and when the results of such operations have been *distinctly* stated to the patient. It is true that the disease will reappear in a large number of cases, but the slightest chance of a radical cure, which is quite possible, (*vide* cases by Sir B. Brodie, Mr. Liston, &c.), and the interval of hope and comparative ease between the removal of the primary disease and its recurrence, fully compensate the patient for the temporary suffering and danger incurred by the operation.

44, Gower Street, Bedford Square,
Dec. 15th, 1846.

IRRITATION OF THE BLADDER FROM ASCARIDES.

DR. DREYFUS has reported the following case:—A young female, but recently married, experienced considerable pain in micturition. The urine was passed only drop by drop: there was fever, with other symptoms which indicated inflammation of the neck of the bladder. M. Dreyfus ordered twenty leeches to be applied to the perineum, with camphorated and opiate lotions, baths, &c., but the patient experienced no relief. After four days' suffering, she took a dose of castor oil, and in the first evacuation this led to the expulsion of a whole mass of ascarides. The irritation about the bladder immediately disappeared, and the patient perfectly recovered. *Journal de Médecine*, 1846.

OF TENSIONS

TO GLANDULÆ PACCHIONI, HY-
PERTROPHIC FINGERS, AND
CANCEROUS GROWTHS.

By T. WILKINSON KING, F.R.C.S.E.

THE theory or doctrine which presents "molecular tensions" as prime efficient, principles, or first causes, in the processes of health, disease, and remedies, is likely to grow but slowly into general favour. Yet I cannot but think it well to add an occasional stroke of the chisel, hoping that the more its form and dimensions become defined the more it may seem deserving of attention. I venture to state, with probably less than becoming modesty, that it is calculated to change many existing views, and develop many new rules: but it is not my object to anticipate time.

Not long since, in the pages of the GAZETTE, I suggested an explanation concerning glandulæ pacchioni—that pits were essential to their formation—calling them *pit-grains*; and having just remarked these bodies for the first time, and in abundance, along the posterior edge of the cerebellum, I may naturally discover some common satisfaction at the proof thus afforded of my former view. I thought it safe to anticipate confidently that the dura mater would present, in opposition to these rarely placed granules, the same aspect as the sides of the falx major when the pit-grains are found along the upper edge of the cerebral hemispheres. We found, accordingly, a corresponding number of vertical tendinous threads standing out to form in their interstices the pits or cells, without which, I have said, the grains never seem to be formed.

That tendinous fibre is the result alone of *extension*, I hope I have fairly established; the facts would interest too few for me here to dwell on them. It may suffice for the present, if it do not even seem too much, to presume that, the pit being formed, it must contain something. Now, if there be not what is called inflammation, we may not look for adhesion. We may say, let water fill them; but in certain constitutions it is easier to form flesh than

water, and the new growths will be red or white, or watery, in accordance with the state of the frame which nourishes them, and I cannot doubt that the peduncles of these bodies are in effect ligamentous in proportion to the extensions which operate on them.* My views of tension may derive a more ready illustration from some curious facts lately published by Mr T. B. Curling (Med. Chir. Trans.) relative to hypertrophy of one or more of the fingers: The form and strain determine the size of each digit and each part. We have cases in which, during the growth of the individual particular fingers,—nail, skin, bone, and everything commensurately, attain double the normal amount. We might suppose such a result for an entire leg, if the materials were not consumed by other limbs, and the exertions of the said leg were enough to demand such evolution, and if, again, the specific matters for each tissue were healthy as well as abundant. Now, if one leg be so formed as to play with facility, and the other so deformed as to effect all ordinary motions, but at considerable disadvantage, we may justly expect to see all the overstrained parts (soft and solid) over nourished: this applies when half the fingers have been lost, and when toes are used as fingers. So more extension and less flexion may make a thumb into a finger; humoralism may explain hypertrophy of single tissues, but nothing but specific tensions can define the arrangement of each fibre of membrane, cartilage, ligament, &c.†

Therapeutic tension tempts me to make one more comment on this occasion, although in opposition to authorities deservedly in high esteem. Can adventitious pressure influence a growing tumor, and how? In other words, can a tumor more disposed to grow than any part of the body be restrained by pressure? I venture farther. Can a tumor whose growth requires that other parts must be removed to give it space, yield to pressure? Tumors burst out the walls of the testes, the eye, the vertebræ, and

* I may refer to an analysis of my opinions, MED. GAZ. May 1845, and lately published more fully at Guy's Museum.

† Vide MED. GAZETTE, April 1844, and July 1843-46. See also papers in the Med. Ch. Rev., Oct. 1844, and Prov. Med. Journal, Aug. 1843.

the skull; and this should seem a sufficient answer. But a cancer hollows out the body of a vertebra until the shell yields to the superincumbent pressure, and the cancer, bound in by ligament, shrinks into a lamellar vestige; here is, no doubt, *sudden and irresistible* pressure.

But suppose a tumor under the skin artificially compressed on its superficial aspect only, having counter-pressure only by bone and membrane, is it possible that its dispositions can be altered? What kind of therapeutical facts (P) will affirm? Is it not manifest that the *relative powers* of the growth and all its investments remain unchanged by the pressure? May I add, there is a case in which the tumor, if it be such, is the part the more prone to yield, *i. e.* when it is about to fade of itself.

Suppose a testis half full of tubuli, and half of a new growth, what difference will additional pressure produce on the progress of the two contents? With the approach of summer, a strumous tumefaction wastes for want of its nutritions. With advancing months, cancers grow more and more inveterately. So tensions and humoralism bear divided way; the first gives the arrangements, the last the matters to be arranged—to die, persist, decline, or grow, as the state of the frame may be.

36, Bedford Square.

TUBERCULOUS ABSCESS IN THE PANCREAS.

THE rare occurrence of disease of the pancreas renders the following case interesting. The subject of the case was a young female, aged 25, who had for a considerable time been out of health. Four years ago she had suffered for about two months from severe pain at the lower part of the chest, extending through to the back, which prevented her from lying on her right side or on her back. After the subsidence of this attack she seems to have continued in tolerable health for nearly three years, at the end of which time she became affected with lassitude and debility, uneasiness in the chest, and bilious vomiting. The vomiting would sometimes last four or six hours. From this time her skin slowly and gradually became jaundiced, and continued so to the date at which she came under M. Cruveilhier's care, who has recorded the case. She complained at this time chiefly of loss of appetite, and inability to lie on her back in bed unless propped up. Her

tongue was moist, and digestion good; but her bowels were obstinately confined, so that she did not require to go to the closet oftener than once in four or five days. The evacuations possessed their natural colour. She had some uneasiness on pressure over the epigastrium. The margin of the liver could be felt below the cartilages of the ribs, and appeared slightly enlarged: some pain was caused by pressure over this organ. The urine was not high coloured, and formed no precipitate on the addition of nitric acid. She had now very little uneasiness in the chest; no cough, palpitation, or headache. Neither by auscultation nor by percussion could any thing abnormal be detected in the lungs or heart. Some slight remedies were made use of. In about a week she became feverish and generally ill, without any known cause: in the evening of the same day she vomited some bile. The vomiting continued next day, and was accompanied by loss of appetite, and severe pain at the pit of the stomach. The pulse was 100, small, and feeble. The vomiting was almost incessant for the two following days, when she became extremely exhausted: the pain in the epigastrium was most severe. No evacuation from the bowels had taken place since the commencement of the attack. Tongue dry, furred, white on the dorsum, red at the tip. Pulse 90, small. She died exhausted the same evening.

The liver was found rather larger than natural; its right lobe firm in texture, and of a peculiar greyish green colour throughout. About two ounces of dark green bile were contained in the gall-bladder. The glands in the neighbourhood of the stomach were enlarged, softened, and infiltrated with a blackish matter. Those near the pancreas were also enlarged, and filled with tuberculous matter. The pancreas was about natural in size. Within its last half, or tail, was found an abscess, capable of holding a small hen's egg. It was filled with thick purulent matter, and its cavity was lined by a thick and tough, greyish, organised membrane, within and around which were numerous softened tubercles. External to the abscess the tissue of the pancreas was spread out, and appeared atrophied. The right half of the pancreas was dark coloured, but healthy in structure. The pancreatic duct was entire. Two small cretaceous masses of tubercles were found in the spleen, and two similar ones in the apex of the left lung. Traces of recent violent inflammation were found in the stomach, the duodenum, and for a short way down the jejunum.—*Gazette des Hôpitaux.*

MEDICAL GAZETTE.

FRIDAY, JAN. 15, 1847.

THE social duties of the physician extend far beyond the limited trust of investigating disease, and of ministering to the sick. As a man of science, and as a citizen of the world, the enlightened medical practitioner must ever feel that the highest province of his calling is to employ all his faculties, and all his social influence, in preventing or limiting the progress of those various causes which are known to produce death, either by accident, by design, or by gradual decay of the powers of life. To increase the term of existence of the entire human race, and to mitigate, or, if possible, to remove all those physical evils which lead to the impairment of man's bodily and mental faculties, are objects which afford a wide field for the labours of the medical philosopher, and one which he is bound to explore with all the energy and acumen which he can summon to his aid, wholly regardless of any temporary opposition that may be made to his interference in matters which, to an ordinary observer, may appear to be beyond the proper sphere of medical inquiry.

Upon these grounds we wish to call the attention of the profession to a great moral evil, which has for several years past been upon the increase in this country, and which has, throughout its progress, been evidently marked by consequences of so fatal a character, that it loudly calls for the interference of society at large, and most particularly of the members of our own profession.

That the crime of Secret Poisoning has of late years been greatly upon the increase on the Continent and in this country, is a fact which might be

readily proved by statistical evidence. The perusal of the daily prints, and of the medical periodicals, will be alone sufficient to convince the most ordinary observer that the crime in question is now perpetrated in England with unexampled audacity, and to a most extraordinary extent; and it becomes a matter of legitimate inquiry for the profession to trace out the causes which have led to the revival, in our own time, of a mode of perpetrating murder which has been in a great measure abandoned throughout the whole of Europe for nearly a century and a half.

One of the principal causes of the recent increase of secret poisoning has undoubtedly been the great publicity with which the investigation of several remarkable cases of this kind has lately been conducted. The reports of these trials, while they have laid open to the popular view nearly all the means of detecting homicide with which medical jurists are furnished, and while they have rendered particularly apparent the various means of escape which are open to the guilty, have also had the strange effect of enlisting the morbid feelings of a large proportion of the less rational members of the community in favour of the culprits, who have in many instances passed from the defective ordeal to which they have been subjected rather with the air of popular martyrs, than with the aspect of wretches whose souls are branded with the crime of secret and unavenged murder! Example, too, has done much in rendering the crime of poisoning so fearfully prevalent as it now is. There has scarcely ever been perpetrated an offence so heinous, so extraordinary, or so inhuman, that it has not been speedily imitated in almost every quarter to which a knowledge of the facts has extended. To this morbid principle we must, in a certain

degree, attribute the fact that, from time to time, certain peculiar modes of self-destruction, and certain plans of murder, become the most prevailing offences of the day. But it is assuredly not solely to example and the mere effect of publicity that this great evil must be attributed. The bare, undefended, and unexaggerated details of crime are simply horrifying and revolting to the feelings of human nature; and it is only when decorated by the false lustre which the imagination of a romance writer can throw over things in themselves the most disgusting, that the details of offences of this kind become first endurable, then interesting and exciting, and in the end too frequently suggestive of crime to the ill-regulated minds of weak and unprincipled readers.

We do not hesitate to declare, that the fictitious literature of France and England, in which the most atrocious offences have of late years been painted with exaggerated details, and in the most brilliant colours which an excited imagination is so well able to give to the unnatural, has been mainly instrumental in producing the recent increase of the crime of poisoning in this country. Having exhausted the history of other heinous crimes, the romance-writers of the present day now devote the whole of their powers to the description of murder by poisonous drugs; and they have displayed so much misplaced industry in the collection and embellishment of their materials, whether true or false, that there is now scarcely any historical instance of this crime which has not been fully laid before the public with its incidents heightened by every exaggeration that a fiendish imagination could suggest. A large proportion of modern novels may be regarded as convenient hand-books of poisoning, for the guidance and instruction of the public. In every page are detailed the

means whereby secret murder has been successfully perpetrated, with suggestions on the cautions to be pursued by future experimenters upon the lives of others, in order to avoid detection. It is certain that this evil has now risen to a most extraordinary and dangerous pitch. Within the last twelve months three popular romances have been published in the English language, in which Cæsar Borgia, the prince of poisoners in the fifteenth century, has figured as a principal character. The fictitious histories of the Marchioness de Brinvilliers and Madame Laffarge have lately vied in exciting the prurient imaginations of the patrons of felon literature; and the names of the *Acquetta di Napoli*, and of the *Manna of Saint Nicholas of Bari*, are now becoming as familiar to the public ear, as were formerly those of the *Spirit of Mindererus*, or the *Eau Medicinale*. Minutely circumstantial accounts of several of the most remarkable trials for poisoning have been recently published; and the most eloquent novelist of the day has just given to the world a work of fiction, the entire plot, details, and moral(?) of which form a most complete revelation of the art of murder by poison,—a work which almost appears to have been written for the express purpose of giving a dignity to the crime of assassination, and of reviving in the public mind an interest in the lost art of Italian poisoning. As an instance of the infamously suggestive and dangerous character of these works, we subjoin an extract from a popular French novel, a translation of which is now being published in this country in a cheap form, for the diffusion of instructions in the crime of poisoning among the “million.” The following is a portion of a dialogue between a gentleman who pretends to teach the “science” of poisoning, and a lady who is desirous of profiting by his instructions:—

"So, then, you believe that the effect would be greater with us than in the East, and that amidst our fogs and rains a man would habituate himself more easily to this progressive absorption of poison?"

"Certainly; provided we accustom ourselves to withstand a certain poison by another antidote."

"I understand, sir; and in what way would you habituate yourself to this defence?"

"Very simply. Suppose you know beforehand the poison intended to be employed against you,—*brucine* for instance."

"Brucine is extracted from ferruginous substances, I believe?" said the lady.

"Exactly so, madam," answered he; "but I see you know all about the subject."

"Oh! I confess," said she, "I have a passion for the occult sciences, which speak like poetry to the imagination."

"Well!" replied the Count, "suppose the poison used is brucine, and you take a milligramme the first day, two the second day, and so on: in the course of ten days you will come to a centigramme; in twenty days, by adding another milligramme, you will have three centigrammes,—that is, a dose which will nowise affect you, and which would be very dangerous to any person not protected by the same precautions; finally, in a month's time, by drinking out of the same decanter, you would kill a second party, without feeling any inconvenience yourself from the venomous substance dissolved in that element."

"Do you know any other antidote?"

"None whatever."

"With us, a dunce possessed by the demon of hatred or cupidity, who has an enemy to destroy, or a near relative to put away, goes off to a grocer, makes use of a false name, and on pretence that the rats prevent him from sleeping at night, purchases six grammes of arsenic; if he is a clever fellow, he goes to six different grocers instead of one, and thus multiplies the danger of detection; then, when he has got his specific, he administers to his enemy, or his relative, a dose of poison strong enough to kill an elephant, and thus his victim is put to the torture, and disturbs the whole neighbourhood with

his shrieks; then down come a whole regiment of policemen and *gendarmes*; a physician is sent for, who opens the body, and takes out of his bowels whole spoonfuls of arsenic. The next day, a hundred papers relate the fact with the victim's name and that of his murderer. The very same night the grocer or grocers come forward and declare: 'It was I who sold the arsenic to the man;' then they seize the *stupid poisoner*, throw him into prison, examine him, confront him, confound him, condemn him, and lastly execute him; or if it be a woman of any standing, they shut her up for life. That is how you Northerners understand chemistry, madam. Désruis, however, was more prudent than that. I can't deny it."

"What's to be done, sir?" said the lady, laughing, "we do our best. Every body has not the skill of the Medicis and Borgias."

"Now," said the Count, shrugging his shoulders, "shall I tell you the cause of all these blunderings? At your theatres, the people always behold the victim take his phial of poison, drink it and drop dead, and then the curtain falls and they go home. They see no commissary with his scarf, no party of soldiers headed by a corporal, and so many a poor fool thinks that there's nothing to fear. But go beyond France, go to Aleppo, to Cairo, to Naples, or to Rome, and then you shall see passing in the street, fine tall upright men, fresh coloured and hearty, and you would never dream that *those men have been poisoned for three weeks, and will be quite dead in a month.*"

Apart from the absurd errors with which the above descriptions are fraught—errors which, however, would not be likely to be appreciated by non-professional readers—what can be more diabolically suggestive of the means by which a crafty assassin might, with apparent safety to himself, enter upon the commission of his inhuman designs, than these details? Such is the character of a large portion of what some are still accustomed to term the "light" literature of the present day, although the expression "dark or felon" would more appropriately represent its true character.

The name of one of the most destructive poisons which modern chemistry has revealed to us, is here made common as a household word! The mode of procuring poison, and of so administering it that the ends of justice may be completely defeated, are here laid down with that explicitness which leads to the belief that the sole object of the writer is to encourage murder, and baffle the power of the law, weak and inefficient as late investigations have proved it to be for the suppression of this most detestable crime.

We shall resume this subject at an early opportunity. For the present, we think we have sufficiently displayed the destructive tendency of the pernicious style which now pervades and characterizes our popular literature. The time has arrived when all members of our profession are called upon to exercise the power which they claim in society, to mitigate the effects of this evil, and to prevent its extension.

Reviews.

On the Treatment of Strictures of the Urethra by Mechanical Dilatation, and other Diseases attendant on them: with some Anatomical Observations on the Natural Form and Dimensions of the Urethra, with a view to a more precise Adaptation and Use of the Instruments employed in their Relief. By JAMES BRIGGS, Senior Surgeon to the Lock Hospital, &c. 8vo. pp. 62. London: Longman & Co. 1845.

UNDER the above somewhat disjointed title the author has embodied an interesting collection of facts relative to the anatomy of the male urethra, and an account of stricture and its treatment, which, without claiming the character of an elaborate treatise on the subject, very clearly displays the nature of the author's views and practice. We cannot attach any great degree of novelty to any of the facts advanced in Mr. Briggs's pamphlet,

but we believe that a few extracts from its pages will not be uninteresting to our readers.

Mr. Briggs has been at some pains to decide the average length of the urethra in the living subject, conceiving that "the few who have noticed it appear to have formed their conclusions on measurements made on the dead subject alone," where the altered condition of the parts must of course lead to deceptive results. We believe, however, that the observations of MM. Velpeau and Civiale were the results of measurements made in the living subject, although the average length of the canal, as decided by these authorities ($5\frac{1}{2}$ to $6\frac{1}{2}$ inches), is probably below the real standard. "M. Portal estimates the length of the urethra in the adult at 10 or 12 inches. Senac assigns to it 12 or 13. Sir E. Home $8\frac{3}{4}$ or 9 inches." Boyer says it varies from 11 to 12 inches, while Malgaigne considers 6 inches as the maximum. Dr. Leroy (whose researches appear to have escaped the notice of our author) agrees with Whateley that the urethra is generally 8 inches in length, he having found it so in several hundred cases. He has rarely found it so short as 7 inches, but repeatedly as long as 10 or 11 inches*. The means by which Mr. Briggs contrives to measure the length of the urethra in the living subject are

"By drawing off the urine by means of a catheter introduced into the bladder without a stilette, upon the stem of which is marked a graduated scale of inches and fractional parts, measured from the eye of the instrument. As soon as the urine begins to flow from the catheter, which has but one opening at the extremity, the line marked on the stem corresponding with the external meatus of the urethra will necessarily indicate the exact length of the canal, or the distance from the meatus to its termination in the bladder. Of sixty persons in whom the urethra was measured in this manner, the length was found to vary from $6\frac{1}{2}$ to $8\frac{1}{2}$ inches. In eight instances, or rather less than one-seventh of the whole (seventy of them being persons of short stature, or not exceeding 5 feet 4 inches in height), the length of the urethra was found to be under 7 inches. In forty-five instances, or three-fourths of the number, i. e. in persons of middle stature, the measurement was found to be between 7 and 8 inches, and in a few

* See Medico-Chirurgical Review, New Series, No. v. pp. 978.

it exceeded eight. In some instances of very corpulent subjects at an advanced age, the urethra was found to be ten inches in length, the increased length of the canal probably arising in these cases from the greater flaccidity of the parts, and superabundant quantity of adipose membrane surrounding them."

Mr. Leroy also mentions that the length of the canal may be much extended by an enlarged prostate in the aged, and by deposition of fatty matter in the tissues surrounding the rectum and neck of the bladder at an earlier period of life. Mr. Briggs therefore concludes that the medium or average length of the passage may be taken to be $7\frac{1}{4}$ or $7\frac{1}{2}$ inches.

In the plaster cast of a vertical section of the male pelvis, the author found the following to be the proportions of the several parts of the urethra: from the orifice to the membranous part $6\frac{1}{2}$ inches; from thence to the bladder $1\frac{1}{2}$ inches— $8\frac{1}{2}$. M. Lallemand states the spongy portion to be $5\frac{1}{2}$ to 6 inches, the membranous 1 inch, and the prostatic portion 12 to 15 lines. The length of the penis, and development of the prostatic portion, will produce great differences, and thus, in a preparation in the Dupuytren Museum, the prostatic portion is observed to be 3 inches long, and the spongy portion only 4 inches*.

After citing facts in corroboration of the opinion, that the curvature of the urethra gradually diminishes with age to the time of puberty, the author remarks that, "although the degree of curvature of the urethra in adult age varies in different individuals, yet it does so within [more] determinate and narrower limits than I think are commonly supposed. I am led to infer that this variation, like the length and capacity of the canal, bears a relation to the general bodily stature, having found generally, by the manner in which instruments enter the bladder, that in persons of short stature the sweep which the instrument makes is more sudden, and the handle" [requires to be] "carried lower than in those of large make, in whom it is oftener requisite to press the catheter backwards in a horizontal direction.

In common with M. Leroy, and the majority of the authorities of the present

day, Mr. Briggs discounts the opinion that the urethra possesses any muscular property; but he remarks that the membranous lining of the urethra possesses an inherent property, and that in a remarkable degree at an early period of life; a fact which seems to him to have been hitherto unnoticed, viz. its elastic property. In examining the body of a child three years old, he found the aperture of the urethra so small as scarcely to admit the point of a knitting-needle (a rather vague standard), yet it readily admitted a common blow-pipe to pass through, and as speedily recovered its former state. On slitting it up, the internal surface was disposed in longitudinal folds, resembling in this respect the collapsed urethra in some classes of quadrupeds. An appearance similar to this is described by Bichat in the mucous lining of the urethra of the adult, except within the prostate or glans, where the texture is denser. The instruments which the author has been in the habit of using in the treatment of stricture for many years are steel sounds, which together may be considered as forming a succession or progressive series of cones or wedges. The conical part of the instrument is about an inch in length, extending from the bend to a short distance from its point, the rest of it being of equal thickness. It has a definite curve, and is ground on each side, so as to leave an obtuse edge, or projecting line, running on the concave side from within half an inch of the point where the curve terminates. The extreme point, to the extent of a quarter of an inch, is uniform. The point of one instrument corresponds in size with the thick part, or stem, of the next, or is somewhat less. The difference between any two of the instruments in thickness, or between the point and stem of each, is about $\frac{1}{8}$ th of an inch, or $\frac{1}{16}$ th of the French line; the point of the smallest of these instruments measures in thickness $\frac{1}{16}$ th, or $\frac{1}{32}$ th of an inch, the stem $\frac{1}{8}$ th, or $\frac{1}{16}$ th of an inch; that of the largest instrument $\frac{1}{4}$ th, the stem $\frac{1}{2}$ th, or $\frac{1}{4}$ of an inch.

Although the author advocates the use of these instruments, particularly on account of their uniting the properties of the wedge and lever, he very justly argues, that until after the situation of the stricture has been accu-

* Medico-Chirurgical Review.

rately determined, and a passage effected either completely into the passage, or at least through the diminished part of the canal by other means, no attempts which require any force should be made, the consequence of which would be to endanger the formation of a false passage. Having first determined the situation of the stricture, the author recommends that a bougie of the finest kind should be passed down to the part, and pressed against it steadily, but with the utmost gentleness. "If an attempt to introduce a bougie of this description should be unsuccessful, or the point be found barely to have entered the contracted part, which may be judged by the impression made on it, a steel sound of equal fineness, or $\frac{1}{8}$ th of an inch, and of uniform thickness, is to be carefully passed down to the point of obstruction, and gentle pressure made upon it in the manner before described, *i. e.* with the convexity of the instrument upwards until the point will no longer advance in that direction; it is then to be turned upwards, with the concave part towards the abdomen, and drawn gently downwards."

Should the point of the instrument be found to have advanced during this movement, it should be suffered to rest there a while, and as it will now make an oblique angle with the line of the abdomen, it will by its own weight, the handle acting as a lever, make a steady but slight pressure on the obstructing point: after allowing it to remain in this position for a short time, and pressing the instrument gently against the stricture, he has frequently found it slip onward a short distance by a sudden jerk, and sometimes two or three times successively, according to the number of the obstructions.

In cases of difficulty, great advantage is gained by introducing the bougie or other instrument immediately after the patient has been directed to empty the bladder: by this means an instrument has sometimes found its way through a very narrow stricture, when the ordinary means of attempting it have repeatedly failed. By some one or other of these methods, although a first or second attempt should prove unsuccessful, a fine steel wire sound will, in most cases, find its way into the bladder; and the

author is inclined to think the instances of failure will be found exceedingly rare. But, even where the point of a very fine bougie or sound has merely penetrated the aperture of the stricture, the urine will flow with less difficulty, and the instrument which would not pass before will be found to enter on a subsequent trial.

"In all attempts to discover the course of the urethra, and especially where the stricture is very small, great care should be taken not to irritate the parts by too frequent attempts, nor by renewing them at too short intervals before the parts have regained their quiescent state. The author believes unsuccessful efforts of this kind to be a frequent source of failure, having been several times foiled in his endeavours to effect a passage by renewing the attempts on the third or fourth day, when, to his surprise, by waiting a week, a bougie or sound has been passed without the smallest difficulty. As soon as an instrument of this kind, on a very fine bougie, has penetrated through the stricture only, the author conceives it to be in the power of the surgeon to enlarge the contracted part of the urethra, not only to any extent that may be judged proper, but almost at his own option." The subsequent treatment consists in the introduction of conical sounds.

In speaking of retention of urine depending upon stricture, the author scarcely alludes to any of the severe or violent measures which have often been employed in cases of this description. Under these circumstances, he recommends that manual treatment should be preceded by the employment of the usual measures for lessening inflammation and spasmodic action; *viz.* general or topical bleeding, the warm bath, opiate injections, and antiphlogistic purgatives, among which he considers calomel in large doses as the principal. In old and confirmed strictures the part is generally so much contracted as to render the introduction of a catheter even of the smallest size rarely practicable. The only means which seems to promise success is that of passing a fine bougie down to the contracted part, and endeavouring to force the point of it within the aperture. If this can be effected, and the instrument be suffered to remain for

some time, on its removal the urine will sometimes be discharged in a very small stream, or by drops; but at each successive effort a small quantity will be voided sufficient to relieve the most distressing symptoms, and by a perseverance in the same measures the stricture may be gradually enlarged, and the necessity of puncturing the bladder thereby avoided.

We have quoted thus fully from Mr. Briggs' pamphlet, as it conveys a very fair idea of a method of treating stricture which has for some years succeeded the injudicious and barbarous plan of attempting to overcome a stricture by force of arm. Since it has been ascertained that nearly every stricture may be gradually dilated by the cautious and patient introduction of conical instruments, men of experience must look back with disgust to the plan which a few years back was almost constantly adopted of endeavouring to overcome the resistance of a stricture by the employment of a degree of force which, when exerted by an indifferent surgeon, almost invariably produced false passages to a frightful extent, and which, even in the most practised hands, very rarely indeed effected the desired result, but too often superadded irreparable lesions to the original disease. We now feel confident that the fatal character of stricture, the frequent and dangerous accidents which follow its establishment, and the misery which its victims are fated to endure, must principally be attributed to the injudicious plan of attempting to effect sudden and violent dilatation of the narrowed canal. Whether the improved plan of treatment has already begun to lessen the mortality among persons suffering from stricture, we will not pretend to say; certainly it has not been our ill fortune to be present at the examination of a person dying from the effects of this disease for a very considerable period; formerly, however, such examinations were occurring almost every month within our observation, and it was generally a subject of remark, that in these instances the lesions inflicted by the injudicious use of instruments had evidently been the principal causes to which the complete obliteration of portions of the canal, the extravasations of urine, fistulæ, and vesical

disease, were in reality attributable. A bad system of treatment, if it be an old one, is not to be easily eradicated, even after its fallacy has been proved by the most demonstrative facts, but we trust that the time is not far distant when every surgeon will regard the error of making a false passage with as much horror as he would the accidental severing of an important artery, and when the numerous preparations of furrowed and perforated urethræ which disfigure most of our museums shall be looked upon merely as the proofs of the dangerous consequences of an operation which was abandoned on account of its unscientific and barbarous character.

The views of Mr. Briggs are altogether very much in accordance with those recently advanced by M. Leroy D'Etiolles, in his "*Traité des Augsties on Rétrécissements, leur Traitement Rationnel*."

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The Why and the Wherefore; or, the Philosophy of Life, Health, and Disease: New and Original Views explanatory of their Nature, Causes, and Connexion; and of the Treatment of Disease upon a few General Principles, based upon the Laws of Nature and Common Sense. With Rules for the Preservation of Health and Renovation of the System. The Fruit of Thirty Years' Observation and Professional Experience. By CHARLES SEARLE, M.D. M.R.C.S.E.; and late of the E. I. C. Madras Establishment. 8vo. pp. 266. London: Churchill. 1846.

It is not very long since there existed a prevalent idea that the views and writings of young men engaged in scientific investigations were invariably shallow, speculative, and visionary; and that opinions of true and substantial practical value could only be expected to emanate from those veteran philosophers in whom the observation of a long series of years had become matured and revised by the cool and subdued reasonings of age. And, to a limited extent, this doctrine was true enough, but it will certainly not hold good in the present day. It now seems to be almost constantly observable, that, whenever a book appears which is replete with fine-drawn speculations

based upon little or nothing, rash theories, crude fancies, and daring assumptions, the author declares himself to be one who has enjoyed throughout the period of some six or eight lustres the opportunity of applying the test of experience to the accuracy of his crotchets. In the present day, young men have learned to have an absolute horror of everything approaching to a theory, unless they feel tolerably confident that they have the power to convert it into something very nearly approaching to a demonstration by the corroborative evidence of facts. And hence it is, that both here and on the continent the medical institutions everywhere contain men who, although young in years, are really old in experience, and who are continually adding to our store of scientific and practical knowledge by the closeness of their observation and the caution of their inferences. On the other hand, we are almost monthly receiving works by old stagers, replete with theories, a large proportion of which were evidently the cherished fantasies of the authors' youth—opinions which these gentlemen were either too diffident or too wise to publish at the time when they were first conceived, but which have remained fixed and unchanged in their minds during all the revolutions which medical science has undergone in intermediate years, to be given to the world at a time when long experience and grey hairs are supposed to confer the highest degree of authority upon matured convictions. The work before us is certainly a striking illustration of this latter remark. We have here a surgeon of thirty years' standing in the profession,—one who has evidently received the usual medical education, and applied himself with some ardour to the study of physiology, attaching the authority of his name to one of the most singular collection of inconclusive arguments, gratuitous assumptions, ill-grounded theories, and false doctrines, which it has been our fate to peruse.

A short series of extracts from Dr. Searle's work must be allowed to tell for themselves how much he has undertaken to prove, and in what manner he has relieved himself of the onus of his pledges.

He commences by promising to show that

"All diseases are allied in character, and consist in a few abnormal conditions of the vessels of nutrition and of the blood's circulation; and that the arrangements of these vessels constitute the disease essentially, whatever its kind, and wherever it may be located. And if so, that the treatment of all may be embraced in a few general principles,—definite in kind, though doubtless modified in degree, by the constitution and age of the individual, and the particular circumstances of the case; and that the remedies also are accordingly and proportionately few in number" (p. 10).

He conceives that "all diseases or derangements of health consist intrinsically and virtually in derangement of the capillary vessels and the functions they fulfil;" and that the disorder and derangement of these vessels consist in a condition of *congestion*, or passiveness; or of *irritation*, or preternatural excitement;" and he adds, that hence "we determine and assume (!) that one or other of these conditions of the capillary or organic vessels is the primordial condition or essence of every disease" (p. 20). A little further on, however, he proceeds to state his conviction that "it will eventually appear that the cause or occasion virtually of every disease (mental emotions and moral influences excepted) resides or consists in, or depends upon, the quantity, quality, (or constituents,) or temperature of the blood" (p. xxix). He then has recourse to authority in a manner which is but little complimentary to the judgment of a late surgeon. "It was," he remarks, "Sir Astley Cooper (if I remember right) who said, as the fruit of his experience, that with the lancet, calomel, antimony, and opium, in their various forms and combinations, he could cure every disease" (p. xxii). Let our readers, especially those who have enjoyed the advantage of listening to the teaching of the late Sir A. Cooper, picture to themselves the astonishment which would have been produced in his class-room by an assertion, in one of his lectures, that he, Sir Astley, had just discovered the means of curing every disease by the lancet, calomel, antimony, and opium: let them picture to themselves the smothered whisperings and furtive smiles of ridicule which would have passed between the junior pupils after such an announcement, and the anxiety with

which the seniors would have watched the lecturer into his carriage, little doubting that much learning had made their teacher mad. Nothing of this kind, however, appears to have suggested itself to our author, for he continues: "Accepting the assertion in which it was (?) dictated, there can be little doubt of its correctness; and, if it be true, which I believe it to be, it affords a powerful argument in favour of the theory I have enunciated—namely, that all diseases consist virtually in the derangement of the vascular system; for these are their appropriate remedies, as the numerous affections and their treatment detailed clearly establish." And we certainly find that throughout the whole of his work he most faithfully adheres to the axiom with which he started—"that the principal and most important remedies in the treatment of these affections of the capillaries appear to consist in calomel and blood-letting." In every disease which comes under his notice he recommends one or both of these remedies in some form or other. In one case he gives calomel and aloes; in another he prescribes antimony and venesection; in a third he bleeds and salivates; in a fourth, applies leeches and blisters; in a fifth, cups, and gives calomel: and so on to the end of the chapter; but all the time maintaining a very cautious reserve with regard to the precise manner in which these remedies can be employed as the certain cures of such obstinate complaints as malignant disease, aneurisms of the aorta, and advanced phthisis. Still, he cannot but consider that such conditions as these ought to be amenable to the rule, that the lancet, calomel, antimony, and opium, will cure every disease.

We cannot refrain from quoting a few more passages in which the author celebrates the powers of his divine remedies: they are very good examples of his style of reasoning, and tolerably fair illustrations of his therapeutical doctrines:—"The fruits of my experience," he remarks, "justify me in declaring that, if there is any single remedy in the cure of disease meriting the name of *universal*, that remedy is calomel." (p. 90). And, again, mark the delicate and logical ingenuity with which the following argument is built up:—"It is obvious that no disorder of the system can take place without

being productive of debility of the general system, involving necessarily the heart's power, and thus deranging the balance of the circulation, and inducing congestion of the liver and its consequences—disorder of function and deranged secretion; and" (the italics are ours) "*hence the universality and utility of the celebrated Avernethian remedy—blue-pill, and its consort, calomel.*" (p. 127).

It is but just to the author to state that, in his detail of treatment, he does not appear to favour an excessive or altogether indiscriminate use of his favourite remedies. This reserve may possibly be due to consideration for the feelings of his readers (the work is addressed to the non-professional public), who might be unwilling to side with a practitioner who advocated profuse salivation and bleedings to forty ounces. Still, the author appears to be somewhat partial to a rather startling notion with regard to the propriety of draining off the depraved and effete blood which circulates through the system in disease, and allowing its place to be supplied by "the newly-formed blood, the pabulum of life and nutrition;" and the judgment with which he occasionally administers mercury may be appreciated from the following passage, which has reference to the treatment of disease of the kidney attended with albuminuria:—

"Congestion, however induced, may be succeeded by inflammation of the organ. The secretion of urine in this case will be suppressed, and more pain be experienced, when, in addition to blood-letting, which should be of a more active description, and the vapour bath, the continued application of a large poultice(?) to the loins after cupping, and subsequently a blister, may be recommended; and the calomel, in combination with opium and emetic tartar, or digitalis, should be continued, after the free relief of the bowels by castor oil, till gentle salivation is induced; and after this, balsam of copaiba is a useful remedy." (p. 145).

What will Dr. Bright think of this plan of salivating patients suffering from the acute form of the disease which has received his name? It is scarcely possible to believe that the author ever carried out the above plan of treatment in any five cases of Bright's disease in its inflammatory stage; and in our judgment, if he ever

did succeed in prolonging such a course, his treatment was bad and injudicious in the extreme.

We have dwelt so lengthily upon Dr. Searle's pathological and therapeutical views, that we have reserved but little room for a notice of his "new and original" physiological doctrines; but, as it is possible that this work may have a considerable circulation among those who are no judges of the subjects which it contains, it will be necessary that our readers should not be compelled to plead profound ignorance of the doctrines with regard to the vital principle and the connexion between mind and body.

The author commences his physiological revelations with the startling announcement that, although the views with which this work abounds correspond in a great many particulars with those for which Liebig has obtained so much renown, Liebig has followed in the author's wake: not Dr. Searle in his. He can truthfully say that, if Liebig has not derived, he nevertheless has had abundant opportunity of deriving, these views from a work published by Dr. S. so far back as 1830, entitled "*Cholera; its Nature, Cause, and Treatment; with original Views, Physiological, Pathological, and Therapeutical, in relation to Fever, the Action of Poisons on the System, &c.*;" to which is added an *Essay on Vital Temperature and Nervous Energy*, explanatory more particularly of the Nature, Source, and Distribution of the latter;"—"a title which" (the author adds) "it is obvious embodies the subject-matter of Liebig's celebrated work on *Animal Chemistry*, in its application to physiology and pathology, and first published in 1842." We confess ourselves rather at a loss to perceive the precise manner in which the above comprehensive title embodies the subject of the Giessen philosopher's celebrated work, but we admit that there exists a strong family likeness between several of Dr. Searle's physiological doctrines, and those propounded in the great physiologico-chemical treatise; in fact, much of Dr. Searle's physiology is quite as good—and as bad—as that taught by the Baron, who appears to have nought enriched himself by the adoption of the surgeon's crotchets, although he

has left the unhappy source of these notions remarkably poor indeed.

The boldness and absolute freedom from hesitation with which our author undertakes to resolve points of difficulty which have proved utterly insurmountable to the metaphysicians and physiologists of all ages, are really quite astounding. The ease with which the following explanations are given is only equalled by Columbus's solution of the problem of the egg. In two brief paragraphs the author explains the nature of the principle of life, and of the union which exists between mind and matter thus:—

"*The principle of life*,—that is to say, the actuating motive or nervous power,—the 'vital force of Liebig,'—is, however, electricity, evolved from the blood (a compound of air and nutriment) under the excitement of caloric, the body's temperature, and its pre-existing electrical or vital condition. This evolution takes place, more particularly at the extreme points of the blood's circulation, in the capillary vessels, or those intermediate—the arteries and veins, in which the final changes in the composition of the blood are effected. These vessels, entering into the composition and structure of every organ and part of the body, and constituting by their number the principal part of their substance, fulfil the purposes of nutrition, assimilation, and secretion,—the primary and fundamental functions of life." (pp. 3-4).

All this is very clear indeed: the vital force or electricity is evolved under the excitement of the pre-existing electricity or vital force! Nothing can be plainer or more intelligible; and we think that the author would have found it very difficult to give a more demonstrative account of the true nature and origin of the principle of life. The following, we must premise, is a bran-new theory, and is based upon recent anatomical discovery:—

"*The connexion between mind and body.*
—Mr. G. Rainey has recently demonstrated that the arachnoid membrane, which envelops the brain, consists of a plexus of or expansion of the same nerves (the sympathetic) which accompany the carotid arteries in their distribution to the brain, and hold likewise immediate connexion with the large ganglions in the neck and the rest of the nerves of the sympathetic system. Hence the sympathy or general consent and association existing between all the organs, and the connexion between the body and the

mind, the brain being the seat of its manifestations, or the organ of the mind; and hence likewise the integrity of the functions, the reflex actions and dependence of the organs of the body upon the state of the mind, and this upon the former." (pp. 24-5).

How easy, too, is this explanation! The nerves of the sympathetic system which pervade all the other organs of the body, are very plentifully distributed to the brain or organ of the mind; hence the union which exists between mind and body—Q. E. D! We are aware that Purkinje and Mr. Rainey have described a very plentiful distribution of nerves which may be observed beneath the internal surfaces of the membranes of the brain and spinal cord; but we much doubt if these anatomists were aware, at the time they made their observations, how plain a clue they were furnishing for the solution of the greatest of metaphysical difficulties.

We now leave the "new and original" doctrines, physiological and pathological, to their fate, believing that, although in many respects they bear evidence of a very clever and ingenious fancy, they are likely to prove of very little value or interest either to the public or the profession. The only use to which the work appears to us to be applicable would be its employment by medical teachers as an exercise-book for their classes, reading to the students a page or two daily, and desiring them to point out and explain away the sophistries and fallacies with which the various sentences are fraught.

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

December 21, 1846.

DR. COPLAND IN THE CHAIR.

DR. GARROD, Dr. Hudson, Dr. M'Intyre, Dr. Protheroe Smith, R. Barnes, Esq. E. E. Baron, Esq. H. C. Curtis, Esq. John Dalrymple Esq. H. C. Johnson, Esq. John Marshall, Esq.—Sharpe, Esq. C. Walsh, Esq. R. Wollaston, Esq., were selected members.

Dr. CLENDINNING exhibited a specimen of

Hæmorrhage confined to the Spinal Canal, without any well-marked Disease of the Cerebrum or Cerebellum.

This specimen was taken from a man of intemperate habits, aged thirty-three, who was admitted into the Marylebone Infirmary on Nov. 22. On admission, there was observed coldness of the surface, weak but regular pulse, dilated pupils, and general prostration. Shortly before admission, while in a public-house, he suddenly leaned back on his seat with a vacant stare, losing all consciousness. The usual treatment for apoplexy was adopted without effect, and he died on the third day after admission. The post-mortem was made thirty-seven hours after death.

The cerebral arachnoid and pia were firmly adherent in the median line to the anterior portion of each hemisphere; a small part of the cortical substance, opposite the cribriform plate, appeared softer than natural, accompanied with slight congestion of the corresponding medullary portion; about two ounces of clear fluid in the lateral ventricles. The spinal arachnoid cavity was posteriorly filled with fluid, dark coloured blood; there were, however, thin coagula on parts of the cords of the membranes, which were generally stained deeply red. One lung was congested inferiorly. The heart weighed eleven ounces and three quarters; the liver weighed sixty-five ounces; and the kidneys were double their normal weight. The spleen weighed five ounces and three quarters; the stomach was normal. Dr. Clendinning remarked that the following positions might be hazarded in reference to this case:—

1. That it was a case of comatose disease of the apoplectic class.
2. That the coma was produced immediately by the cerebral congestion.
3. That the existing cause of the coma was probably the liquor he had taken.
4. That the remote causes were hypertrophy of the heart, and intemperate habits.
5. That the spinal hæmorrhage should be regarded as a complication rather than a cause of the coma.

Dr. COPLAND remarked, that affections of the spinal cord had of late been very frequent, and that he had had in his own practice three cases within a very short time.

Mr. NATHANIEL WARD then read a communication, accompanied with drawings, from Dr. Letheby, on two cases of poisoning. The following are the particulars of the cases:—

Poisoning by Sulphuric Acid.

CASE 1.—On Monday Dec. 29th, 1845, a boy, aged 9, was admitted into the London Hospital, under Dr. Little, suffering from

the effects of oil of vitriol. He was at play in the street, when a strange boy gave him a teaspoonful of it to drink; he swallowed about an ounce of the acid, and was instantly seized with excruciating pains in his throat and stomach. He ran home, and, according to his father's account, looked as if somebody had been smearing his lips with white paint. He was carried as quickly as possible to a neighbouring surgeon, who administered a great quantity of chalk and magnesia; five minutes, however, must have elapsed before anything was done. His father then brought him to the hospital, and he became very sick, throwing up a quantity of brownish matter, from which the chalk readily subsided, leaving a supernatant liquor, strongly resembling porter; it was chiefly mucus, charred by the sulphuric acid. He appeared to be suffering a great deal, the countenance was anxious and deadly pale, the extremities cold, and the pulse scarcely perceptible. Under active treatment he rallied, and in about seven hours fell into a quiet sleep; he passed a very comfortable night, and got out of bed twice to void his urine. In the morning, the countenance still looked anxious; he complained of pain in his throat and stomach, though it was not increased by pressure; the lips were swollen, and surrounded by reddish-brown scabs, the effects of the acid; the tongue also was covered with a pearly-white epithelium, which had already begun to peel off from its sides, (as illustrated in the drawings;) the skin was hot and dry; the pulse 132, hard, and jerking. He was ordered albuminous food, and two leeches were applied over the top of the sternum. This febrile condition lasted for four days, the skin remaining hot and dry, and the pulse quick and jerking; during this time he was copiously salivated, and he spat up a great deal of white, shreddy epithelium; the urine was high-coloured and increased in quantity, while the bowels remained obstinately constipated. On the fifth day, an active purgative relieved them, and from that time he gradually got well. The urine which he voided during the first four days of his illness was submitted to chemical analysis. Its quantity was greater than natural; it had a deep red colour, a strong acid reaction, and a specific gravity varying from 1046 to 1030; it did not contain the least trace of albumen, but held so much of the triple phosphates in solution, that on neutralizing with ammonia they were thrown down in the form of a copious white precipitate. On testing for sulphuric acid, there was found, on the first day, a quantity equal to sixty-two grains of the strongest oil of vitriol; on the second day, forty grains; on the third day, 18.3 grains, and on the fourth the equivalent of 12.7 grains. The urine was

not examined on the following day, but on the sixth it had again become natural. In all, therefore, 133 grains of monohydrated sulphuric acid were thus got rid of—a quantity which is about equal to an ounce and three-quarters of the dilute acid of the London Pharmacopœia.

The case offers the following peculiarities:—

1. That he should have recovered after the poison had remained so long on the stomach.

2. Its detection in the urine shows that the acid had been absorbed.

3. Its action was almost entirely local, the only constitutional symptoms being a little fever with copious diuresis.

4. That the duty of getting rid of the poison rested with the kidneys.

5. That as much as, or rather the equivalent of, 133 grains of the strongest oil of vitriol should be permitted to circulate with the blood of a child nine years old without producing any very dangerous consequences.

Poisoning and Death from Arsenious Acid.

CASE 2.—Harriet T.—, aged nineteen, a robust, healthy girl, took, on Tuesday night, Sept. 1st, about two ounces of fly-water containing two grains and a half of white arsenic. It rendered her somewhat restless during the night, producing watchfulness, and a slight pain in the stomach. In the morning, she became sick, and complained of great thirst; the pain of the stomach also had become much more intense. In the course of the day the sickness increased, and she was repeatedly purged, her countenance looked pinched, and the extremities became cold. From this state, however, she soon rallied, and on Wednesday night she became cheerful, and slept comfortably, though she was disturbed once or twice by the thirst, which still distressed her. On Thursday morning she was worse, being cold and drowsy. Her mother now sent her off to the hospital, but it was found to be too late for medical help; she was evidently in a dying state: the countenance was pale and anxious, the extremities cold and bedewed with a clammy perspiration; the pulse was hardly perceptible, and she lay in a state of incipient coma. When roused, she spoke of what she had done, and seemed conscious of her danger. From this time, (nine o'clock,) she became more and more comatose, and at twelve gradually sunk, dying about thirty-six hours after the administration of the poison.

The body was examined twenty-one hours after death.—The brain was found to be very much congested, and the lateral ventricles filled with half-coagulated blood. The lungs were natural; the heart flabby, and distended with dark jelly-like blood. On the endocardial membrane, especially

where it covered the auriculo-ventricular valves, there appeared a number of hæmorrhagic spots: this was illustrated by the drawing. The abdominal viscera were somewhat congested, particularly towards the region of the pelvis. The *stomach* was pale, nearly empty, and its mucous coat raised by a number of vesicles containing air. Along the pylorus it had acquired a distinct gamboge tint—an effect which was in all probability due to the formation of a sulphuret of arsenicum. The tissue of the stomach was examined chemically, and it gave unequivocal evidence of the presence of arsenic in it.

Without commenting on this case, I will merely refer to a few points which may be of some interest to the medical jurist:—

1st. That two grains and a half of arsenious acid should be sufficient to cause death. I believe that this is the smallest fatal dose on record.

2nd That the operation of the poison should have been so slow; for the fatal symptoms did not appear for more than twenty-four hours after its administration.

3rd. The local symptoms were very slight; death appeared to result from coma, coagulated blood being found within the cavities of the ventricles.

4th. The ecchymoses on the valves of the heart, as mentioned by some authors, were here very evident.

5th. The congested state of the pelvic viscera was another point of interest.

6th. An analysis of the tissues of the stomach yielded distinct evidence of the poison, notwithstanding the smallness of the dose taken.

7th. This was farther evidenced by the yellowness of its mucous coat, and it was peculiar that the sulphuret should have been so soon formed.

Dr. GULL remarked in reference to the case of poisoning by sulphuric acid, without wishing to invalidate the conclusion arrived at by Dr. Letheby, that the quantity of sulphates carried off normally by the kidneys had not been taken into consideration.

Mr. PRESCOT HEWETT presented a preparation taken from a woman who died of

Strangulated obturator hernia.

The patient, aged sixty-seven, was admitted into St. George's Hospital, with symptoms of strangulated hernia. She stated that she had suffered from hernia in the left groin for the last seven years, and that she had been in the habit of wearing a truss. Four days previous to her admission the gut had slipped down behind the truss, which was followed by intense pain in the abdomen; she, however, succeeded in reducing a portion of the tumor, which was of

the size of a pigeon's egg, and the following day a surgeon reduced the remaining portion of it. On her admission into the hospital, no tumor could be felt in the left groin; but she was in a very low state. Stercoraceous vomiting, hiccough, &c., were present, but without pain or tenderness in any part of the abdomen. Injections, and calomel and opium, were administered without any relief; and as a small swelling was obscurely felt in the left groin on the following day, an incision was made in this region, and a small, hard tumor was laid bare, situated close to the external abdominal ring, which was large and quite free. The symptoms went on increasing, and the patient died on the second day after her admission.

On examining the body, an old hernial sac, of the size of a small walnut, was found in the left groin. This sac, which was quite empty and flaccid, was traced through the external ring into the abdomen, where its opening into the peritonæum would scarcely admit of the passage of a quill. The convolutions of the small intestine were of a dark colour; but no inflammatory effusion existed in any part of the peritonæum. After a careful examination, a knuckle of small intestine was found passing through the left obturator foramen, where it was tightly fixed; the gut was, however, withdrawn from its situation, when two-thirds of its diameter were found to have been strangulated, producing an appearance resembling that of a diverticulum. The strangulated portion of gut was healthy in structure, but of a dark livid colour; it was situated about eight feet from the ilico-cæcal valve, all the portion of intestine above the strangulation being much dilated, and that below it much contracted. The sac which had contained this portion of the gut was of a dark colour; it was of the size of a large walnut, and situated to the inner side of the obturator nerve and vessels, a large branch of the artery partly encircling its neck. The whole of this hernial sac was situated beneath the obturator externus muscle, between it and the ligament, the fibres of the muscle being expanded over the surface of the sac. Its point of communication with the cavity of the peritonæum easily admitted the tip of the forefinger.

Dr. HENRY WILLIAM FULLER exhibited a specimen of

Aneurism of the Aortic Arch, bursting into the Trachea and Oesophagus.

The patient, aged 47, from whom this preparation was taken, was admitted into St. George's Hospital on the 8th of January, 1845, under the care of Dr. Seymour. His symptoms were of sixteen months' duration. They consisted, in the first in-

stance, of pain constantly referred to a small circumscribed spot on the back, and of slightly obstructed deglutition. About three months before admission, these symptoms became very much worse, and when he presented himself at the hospital, he was complaining of most intense pain in the back, about two inches below the junction of the neck and thorax, of very considerable difficulty and pain in swallowing, accompanied by some pyrosis, and of a constant hacking cough, of about two month's duration. His left pulse was decidedly larger and stronger than the right, but there was no stethoscopic indication of cardiac or other pectoral disease. There had never been hæmoptysis or hæmatemesis, but on the 9th, the day after his admission, hæmoptysis to a larger extent took place, and was followed, on the 10th, by profuse hæmatemesis. No fresh hæmorrhage took place until the 13th, when hæmatemesis recurred, and he sank in the course of three quarters of an hour. The following is the result of the post mortem investigation:—

Thorax.—The right lung was universally and firmly adherent to the walls of the chest, and was gorged with blood and frothy serum towards its posterior part. The left pleura was healthy, and the left lung crepitant throughout, containing far less blood and serum than the right. Pericardium and heart healthy, valves healthy; coagula in the cavities of the heart small, and, for the greater part, coloured. The whole of the thoracic aorta was thickly studded with atheromatous deposit, which existed, however, in greatest quantity in the ascending portion of that vessel. Just at the arch of the aorta, in the space between the origins of the innominate and the left carotid but extending chiefly down the posterior wall of the vessel, was a large rugged opening, of the size of half-a-crown, leading into an aneurismal pouch, containing coagula of blood of various colours; this pouch was formed by the external coat of the artery, thickened, in some measure, by the surrounding tissues. Transversely, it projected from a little beyond the right margin of the innominate, which it somewhat pressed upon, to a little beyond the left margin of the left subclavian; superiorly, it passed about an inch above and behind the origin of the large vessels arising from this part of the aorta. But its chief projection was backwards, and rather to the left side, where it had insinuated itself between the trachea and œsophagus, and having become firmly adherent to these parts, had subsequently given rise to ulcerative absorption, so that the cavity of the pouch was thus made to communicate with that of the trachea, as well as with the œsophagus. The opening into the trachea was about the size of a

sixpence, and irregular in shape, the cartilaginous rings have been partially and irregularly absorbed: it was situated about an inch above the left bronchus. The ulceration into the œsophagus, of an oval shape, and somewhat larger than a shilling, had irregular margins, the greater part of which were blocked up by a dark slough adherent to the neighbouring tissues. Part of this slough, however, had separated, and had evidently given passage to a large flow of blood, which was traced in the shape of a firm, dark coagulum, into the lower part of the œsophagus towards the abdomen.

Abdomen.—The stomach was distended by an enormous, firm, dark coagulum of blood, which had exactly taken the shape of that organ, and retained it when removed from its situation. The intestines themselves were also filled with half digested blood, of a black grumous character. The mucous membrane of these parts was quite healthy. The other viscera were quite healthy.

In a pathological point of view, Dr. Fuller conceived this case to be exceedingly interesting. For it proves that the yielding nature of the œsophageal tube prevents its being easily subjected to pressure calculated to give rise to ulceration, and that hence arises the rarity of the occurrence of an aneurismal tumor bursting into the œsophagus. The cough and symptoms of pressure on the windpipe were only of two months' standing, yet the parts of this apparatus which had been subjected to pressure had been more completely destroyed than those which, for the reason above stated, had for nearly thirteen months resisted the ulcerative process.

Dr. Fuller thought the double ulceration into the trachea and œsophagus was rare, as he could find no record of a similar occurrence. From the previous attack of hæmoptysis, and the condition of parts as found after death, there could be little doubt that, had not the blood made its escape into the œsophagus, a violent effusion of blood into the lungs would soon have terminated the patient's existence.

Dr. CLENDINNING had very rarely seen absence of hypertrophy of the heart in cases of aneurism of the arch of the aorta; and he thought that though this condition could sometimes not be detected by the eye, the balance would indicate it.

Dr. NORMAN CHEVERS related the particulars of a case of aneurism of the arch of the aorta, in which the heart was rather smaller than natural, and could be invaginated into the aneurismal sac, the valves having become greatly enlarged, and equal in size to those of a bullock's heart. This and similar cases had led him to the inference that hypertrophy was not a necessary result

of aneurism of the aortic arch, and did not take place in those instances in which the increased development of the aortic valves was great enough to prevent regurgitation.

Mr. AVERY exhibited

A preparation taken from a Patient in the Charing-Cross Hospital, who had Died on the Sixth Day after the Operation of Laryngotomy.

The patient, aged forty, who had, prior to admission, been treated as an out-patient for secondary syphilis, was suddenly seized with symptoms of acute laryngitis. Laryngotomy was resorted to on the night of the attack, with great relief of the dyspnoea. The slightest attempt, however, at swallowing, was followed by convulsive cough and regurgitation through the nostrils. After the third day, he could breathe pretty freely through the natural passage when the artificial one was closed, and he began to swallow more easily, although some portion of the food came through the tube in the larynx. On the fourth day, erythema extended from the wound to the upper part of the chest, affecting also both forearms and elbows. He continued to go on favourably till the sixth day, when he died quite suddenly. The specimen illustrated that thickened condition of the submucous cellular tissue of the larynx which had, during life, caused an almost entire closure of the rima. The epiglottis was in a state of rigidity, valvular action being consequently lost, and there were observed two or three spots of albuminous exudation on the mucous membrane, and a film of it on either vocal chord. The deep glands on either side of the thyroid cartilage had suppurated, and on the left side was a quantity of pus, closely confined in the dense cellular tissue, extending interruptedly into the loose cellular tissue behind the oesophagus, to within two inches of the stomach.

Mr. Avery drew particular attention to the proximity of the artificial opening in the larynx to the vocal chords. He thought that this circumstance suggested the propriety of opening the trachea at its upper rings; and in support of this view, he remarked that no less than five fatal cases of laryngotomy, at more or less remote periods from the time of operation, had lately come under his notice, and in which cases he believed that disease in the vocal chords, arising from the proximity of them to the tube introduced into the artificial opening, had been mainly the cause of death.

Mr. AVERY also exhibited a specimen of a polypus of the stomach.

Dr. HERBERT DAVIES exhibited a specimen of

Heart affected with Pericarditis and Endocarditis, with partial conversion of the

Inflammatory Exudation into Ossific Matter.

The pericardium was, in all parts, adherent to the heart, the adhesions, however, being easily detached by the finger: over the right auricle was found a portion of ossific matter, half an inch long, and a quarter of an inch broad, partly loose, and partly embedded in the tissue of the organ separating its muscular fibres. Several fibro-cartilaginous deposits over the right ventricle, one of them commencing to be ossified; cavities of the heart, and more especially the left auricle, dilated and hypertrophied; the aortic valves considerably thickened, and incapable of preventing the regurgitation of fluid; the mitral valve thickened and opaque in its entire extent, and on its auricular surface presented a large deposit of bone, which formed a rough projection into the auricular cavity.

Dr. DAVIES remarked, that there was general dropsy, and that the pleuræ contained a large quantity of serum. The lungs, in consequence of the compression to which they had been subjected during life, and of the difficulty of the transmission of blood through them from the mechanical impediment at the contracted mitral orifice, presented, on many portions, a fleshy appearance or carnification. Abdominal cavity distended with serum; all the organs contained in it were gorged with blood. The spleen weighed nearly two pounds, and was greatly enlarged. The liver presented the nutmeg appearance, the result of impeded circulation through the heart, and the kidneys were also deep red, and evidently ingested through their entire extent.

Mr. H. HAYNES WALTON exhibited a cast of

Inguinal Hernia of the Cæcum, and part of the Colon, with an entire Peritoneal Sac.

The patient, aged sixty, from whom the cast was taken, died very suddenly, having suffered before death from chronic inflammation of the brain, and its membranes. The post-mortem was made twenty-four hours after death. The hernial tumor was on the right side, and was large, rounded, and symmetrical, the communication with the abdomen being, in comparison with the protruded portion, very small. The skin of the pubis was so distended over the penis as to conceal it. There was a distinct fluctuation anteriorly. The whole of the cæcum, the ascending and part of the transverse colon; had passed into the scrotum, the inguinal canal was destroyed, there being a direct opening from the abdomen. There was no stricture, although the protruding points were closely adapted to the opening. The mesenteric portion of the peritonæum at-

fasting the cæcum to the iliac fossa, together with the ascending and part of the transverse meso-colon, were drawn down from their positions, but still maintained connexions by bands of thickened cellular tissue. The stomach was pulled quite vertical. The small intestines were full of feces.

Dissection of the hernia.—The skin was not thickened, and but slightly connected to the subjacent parts; there were distinct fasciculi of the cremaster muscle, passing anteriorly and laterally; the testicle was in front, and nearly in the centre; the vessels of the spermatic were very much separated; the vas deferens and the spermatic artery lay on the inner side, and were nearly mesial; the veins were about an inch external; the fascia transversalis was much thickened, and partook of a fibrous character; it was easily separated from the sac, which was about a line in thickness, and quite opaque, not containing any fluid: the protruded parts were not in any way twisted, they were filled with fluid feces; the omentum was rucked up into a small, hard lump at the bottom of the sac; there was no adhesion of any kind, either of omentum or intestine, to the sac. The relation the parts bore to each other in their passage through the ring, were, internally, ileum, next omentum, and, externally, colon; not more than an inch of the ileum had passed through the ring; the cæcum was in an unusual degree covered with peritonæum; the protruded parts presented no marks of constriction.

Mr. WALTON remarked, that it was probable that there had been originally a protrusion of the small intestines, and at some subsequent period they had passed up, and the cæcum descended, and ultimately pulled the colon after it; there must have been a perfect meso-cæcum. This circumstance, of necessity, facilitated its descent, whether it passed into a sac already formed or not. Although there were no adhesions of the protruded parts to the sac, a return of them would have been difficult, if not impossible, on account of the smallness of the ring, the large quantity protruded, the locking of the cæcum against the outside of the ring, and the lump of hardened omentum. The smallness of the neck of the hernia is sufficiently explained by only one portion of large intestine passing through the ring. The fluctuation produced by the fluid feces occasioned the idea of a complication of hydrocele with hernia.

Mr. NATHANIEL WARD exhibited a specimen of

Curies of the left Temporal Bone, affecting the External Ear, and extending through the Tympanum into the Anterior Wall of

the Petrous portion, accompanied with a Perforating Ulcer of the Dura Mater.

The carious condition of the bone had implicated the tempero-maxillary articulation, which was destroyed, with the exception of the fibro-cartilage. Opposite the carious anterior wall of the petrous portion, an ulcer, with smooth borders, about the size of a threepenny-piece, was observed in the dura mater. The entire surface of the left hemisphere of the brain was covered over by a layer of greenish-brown lymph; and a large quantity of arterial blood, apparently from a branch of the middle meningeal, which had ulcerated, was effused on its anterior, lateral, and upper portions, and on the corresponding parts of the dura mater. The condition of the brain and dura mater was illustrated by a drawing. The preparation was taken from a girl aged sixteen, who had been treated in the London Hospital, by Drs. Frampton and Fraser, for acute endocarditis.

On her admission, the purulent discharge from the ear was not sufficiently great to attract much attention, and she never complained of any head symptoms. As soon, however, as she was placed under the influence of mercury, the discharge greatly augmented; and sixteen days after admission, the soft parts of the external ear began to slough. The discharge increased daily in quantity, and ultimately became very profuse and horribly foetid. About six weeks after her admission, profuse hæmorrhage came on at two distinct periods, and she died comatose, no paralysis or loss of consciousness having been previously remarked.

MEDICAL SOCIETY OF LONDON.

Monday, Jan. 11th, 1847.

Mr. DENDY, PRESIDENT.

Mr. W. B. KELLOCK related a case of
Ovarian dropsy,

which had been attended by himself and Dr. Golding Bird. The patient was a robust lady, of sallow complexion, aged sixty-three. She was married at the age of twenty, and became the mother of eleven children; her last child was born at thirty-seven years of age. She menstruated regularly up to fifty-two. She had always led a quiet life, lived very abstemiously, and enjoyed tolerably good health up to the summer of 1844, when she first complained of shooting lancinating pains in the legs, with sense of irritation in the primæ viæ, intense itching of external genitals, and scanty urine; the bowels also were obstinately constive, and never relieved without the aid of purgatives. These symptoms

lasted up to August, 1845, when the abdomen began to swell uniformly, accompanied by œdema of both legs, particularly the left; the general health also became much impaired. Iron was administered freely and the health improved. She now commenced to menstruate again, that functional discharge having ceased ten years before. The swelling of the legs diminished, but the belly increased in size gradually, up to February, 1846, when it fluctuated most distinctly. It was now evidently a case of encysted dropsy. She was tapped in the mesial line, and twelve ounces of port wine coloured fluid withdrawn. Diuretics, mercurials, and other medicines suited to her case were employed, but in August it became again necessary to tap her, and seventeen quarts of a similar fluid were drawn off. The tapping was repeated on the 27th of December, and the patient sunk on the 8th of the present month. In addition to the curious circumstance of menstruation being regular and natural as to quality, this poor patient suffered from the most intolerable sexual excitement, and great pain in the course of the right sciatic nerve.

The body was examined forty-eight hours after death.—The integuments below the umbilicus, which hung between the legs like an apron, were three inches thick. All the abdominal viscera appeared healthy. The uterus was small and exceedingly soft. The cyst, which was adherent anteriorly, had two compartments; they contained seven or eight quarts of fluid mixed with pus, with deposits of albuminous matter, the result of recent inflammation in their interior. There were two or three smaller cysts developed in the walls of the sac. The base of the sac was occupied by a large encysted tumour, the size of a human head, completely filled with cells containing what is termed colloid matter. The right ovary, about the size of an egg, was remarkably soft, with a central cavity, like an enormously enlarged relic of a corpus luteum.

In the discussion which ensued on this case, it was thought that the post-mortem explained that the intense sexual excitement was the result of the condition of the ovary, which contained appearances similar to a large corpus luteum. It was remarkable that menstruation should have occurred at so late a period of life, and after its cessation for ten years previously; such a circumstance was undoubtedly rare. The discussion then had reference to the nature of encysted ovarian disease; an opinion having been hazarded by one of the speakers that it was invariably malignant. As, however, this point, connected with some recent discoveries on the subject, will shortly come before the Society in a more definite form, we postpone our report.

SOUTH LONDON MEDICAL SOCIETY.

January 7th, 1847.

CHARLES WATERWORTH, Esq. President, in the Chair.

MR. HICKS read a paper

On Malaria, with a few Cases illustrative of its existence on the Surrey side of the Thames.

The author first gave a brief outline of the generally received opinions regarding malaria, by which he understood a vitiation of the atmosphere by some noxious exhalations from the soil acting in some way highly detrimental to animal life, but of the nature of which poison nothing as yet is known for certain, being too subtle for the present means of investigation. Heat, moisture, and putrescent vegetation, are generally considered the requisite elements for its production, but which of the three is most essential is not yet determined; for although it is generally acknowledged that intermittent and remittent fevers occur most frequently in marshy districts, it is equally certain such diseases exist where these conditions do not appear to be present; in such cases there is probably some neighbouring peculiarity which may render it similar to a marshy place, as the nature of the soil, bad drainage, and deficient cultivation, to which may be added, bad ventilation, the result of a low situation. That moisture is necessary for its production is evident from its being always present, and from the absence of the disease in those places where it formerly prevailed, on account of more perfect drainage, as seen in parts of England, especially in Essex, intermittents existing in those places at present having lost much of their obstinate character; but still, in those places comparatively free from ague, its place is supplied by the diseases assuming an intermittent type at some period of their progress, and requiring the exhibition of quinine for their cure. Although remittent and intermittent fevers furnish the most certain proof of the existence of malaria, yet there is a class of diseases depending on some visceral obstruction of the liver or spleen, as evidenced by the characteristic pallid, sallow, aspect, and pearly whiteness of the conjunctiva, but not having the intermittent character. The author then applied conclusions from the above remarks to the district under consideration, which must be considered unfavourably situated for proper drainage, and covered with stagnant pools, ditches, and other active sources of malaria, among which the numerous openings of the common sewers should not be omitted. The author then referred to cases under his own immediate observation exemplifying the existence

As regards the treatment, the author found most success attend large doses of quinine if the bowels had been relieved; in case of this failing, iron may be had recourse to, and especially the iodide, which succeeds at times when these remedies fail, and is especially useful in that form of neuralgia called brow ague. When quinine does not, but iron does, succeed, chlorosis (a state of chlorotic anemia) as described above, will generally be found. Two facts worthy of notice are, first, the great susceptibility to mercurial action in these cases—three grains of Hyd. c. Creta, in one instance, caused salivation, its use at all times requiring care—and, secondly, the peculiar action of quinine, which, although it will rarely fail to cure, will cause the patient to have a more severe attack of shivering at the next exacerbation after its administration, and will even produce shivering when patients have never had any, or hardly any appreciable rigor, but where, from the character of the symptoms, intermittent disease is suspected, as instanced in the before narrated case of apparent catarrh, where quinine being given the lurking disease became developed, as shown by the shivering and succeeding heat of skin.

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various places, as *Fensbury*, *Moorfields*, &c. On the south side of the *Thames*, from *Lambeth* to *Southwark*, was a marsh, which at no very distant period was intersected by ditches; *Southwark* itself was more elevated, but, towards *Bermondsey*, the ground became low, and even at this time is partially intersected by ditches. Owing to increased drainage, pestilential disease is much less common in *London* than formerly; still, the types of various diseases affecting the inhabitants of the town and its environs, prove that the remains of malaria still exist in *London*. He referred to the fact that young women coming from the country soon lose their ruddy colour, and become chlorotic, and subject to neuralgic and visceral disease, often quite independently of the habits of the patients.

Mr. R. EVANS, in answer to Mr. Hicks, believed the district mentioned was decidedly malarious, but he had seen much malarious disease in *Essex*, and it was here of a different form. Mr. Hicks' cases were of an intermittent form of disease, easily cured by a few doses of quinine, which was not the case in the malarious diseases met with in *Essex*, where he had met with enlargement and even rupture of the spleen and dropsy; there the diseases, even if temporarily cured, will not get permanently well, but keep returning unless the residence is changed. Mr. E. alluded to the existence of ague in 1826, on the *Goswold Hills*, *Gloucester*, which situation was high and dry; and also at *Malvern*, in the same year: these occurrences made him unwilling to admit malaria as the cause of disease in these instances, and he did not regard it as the sole cause of ague.

Dr. MUNK alluded to the malarious diseases of *Holland*, in which country he had resided for some time. He considered that the disease put on an acute and chronic form; in the mere visitors to such districts it assumed an acute character, and was easily cured by quinine, but in the inhabitants it appeared as a chronic disease, and was very intractable. He thought the aspect of a patient thus affected resembled that of a cancerous rather than a chlorotic case. Iron was a valuable remedy, but it appeared necessary first to get rid of the periodicity of the disease by quinine, arsenic, &c.; iron was afterwards useful in getting rid of its cachectic character.

Mr. R. EVANS, in reference to himself, remarked that, while living in *Essex*, he never had ague, but on coming into *Gloucestershire* he was attacked with it, and it has recurred about every two years since: in answer to Mr. Hicks he stated that the situation of the latter county was a chalky one.

Dr. MUNK, alluding to the beneficial drainage, remarked, that at *Barking*, which was formerly very prevalent, it is

now almost unknown, and cases which do occur are of a much milder character, and easily cured.

Dr. ADDISON stated that although not a resident in the neighbourhood, he had seen much of it for thirty years, and agreed in the opinions of Mr. Hicks. That ague need not arise from malaria he could not agree to, as he considered malaria always the cause of ague, although it was often difficult to account for its operation in the high and dry situations mentioned by Mr. Evans, still malaria might be carried to such situations by winds blowing over marshy districts. After referring to the opinions of older authors, he alluded to Dr. Ferguson's opinion, as to the occurrence of ague among the military in the *Peninsular war*; that there was something in the dry and sandy bed of rivers producing it, as he had remarked that the army chiefly suffered from it while marching along the sandy banks of rivers; this may perhaps be explained, if we recollect that rivers carry down a large quantity of decaying vegetable matters from the tributary streams; the sand covering and mixed with this vegetable debris, may, as it cracks under the heat of the sun, allow of the evolution of miasmata. With regard to the locality around us, there are decided proofs of the malarial influence. Ague is not rare, and enlargements of the spleen are often met with in this neighbourhood and in *Westminster*. We do not, however, have ague alone, but forms of disease illustrative of its effects—as remittent fevers, dysenteric and visceral derangements, many cases of which have been admitted into *Guy's Hospital* during the late autumn. All the cases in which the miasmatic character prevails, are curable by quinine. He believed a miasmatic fever may occur and be followed by a continued fever, but that they were often mistaken for each other. He alluded to the case of the *Eclair*, and the unhealthy situation of *Buckingham Palace*, as showing the little attention paid by the legislature to matters so important to the public health.

Thanks were then voted to the author of the paper.

At the next meeting, *January 21st*, "Dr. Hughes will read a case of empyema, in which paracentesis was performed fifteen times with success."

WESTMINSTER MEDICAL SOCIETY.

Saturday, December 12, 1846.

MR. HANCOCK, PRESIDENT.

Mr. YOUL related the following case of

Abscess of the Brain in a Child.

The little patient was eight months of age, and he was called up to attend him, on the night of the 27th December last. He found

the child convulsed, though not violently so; the pupils were contracted, but acted on the application of the light of a candle; the pulse 96. There was no paralysis. The child had six teeth; one had been cut the day previously. The gums were not swollen, nor did there appear to be a tooth near the surface. The child had vomited freely the bread and milk taken that evening. He appeared perfectly sensible. The remedies employed were of no avail, and the child sank one hour after the first convulsion. The history of the case gave no evidence of previous disease; but there was a mark on the temple, the result of a wound received accidentally, a fortnight before, from a cutting instrument, but which appeared to have given him no inconvenience whatever, not a single symptom even of irritation having been since observed. He had commenced teething early, vomiting attending the cutting of each tooth. The body was examined thirty-six hours after death. The child was considerably above the average size, and well-proportioned. The limbs were not stiffened; the coverings of the brain were natural. On slicing away the superior left hemisphere, an abscess was discovered, of a triangular shape, the apex corresponding to the external wound. It extended to the lateral ventricle, and contained at least two ounces of pus. The surrounding medullary matter was softened and disorganized.

The case was related first as a remarkable instance of extensive disorganization of the brain, without previous symptoms; and secondly, as a rare example of such extensive disease in so young a patient.

Mr. GREENHALGH read a paper on

The occurrence of Flooding after Delivery.

The discussion which ensued turned mainly upon the new mode of treating placenta prævia by the removal of the placenta.

Dr. SIMPSON, who was a visitor this evening, at the request of the president made some remarks on the practice which is so intimately connected with his name. He first referred to the statistics of the mortality of the old practice by turning, as exemplified in the paper before the Society, in which it was one in three. He then referred to twelve cases recorded by Dr. Collins, in five of which turning was resorted to; in two the placenta was expelled by the natural efforts of the uterus; and in five cases nothing was done. Dr. Conquest had said, that in all cases of placenta prævia it was necessary to interfere. Now he (Dr. Simpson) was by no means of this opinion. When interference was required, then came the question, what kind of interference was desirable? In many

cases simple puncturing of the membranes was sufficient. Dr. Nægele had succeeded in this proceeding in thirteen cases out of forty. When this plan did not prove effectual, then we should turn or bring away the placenta. No doubt turning should be sometimes resorted to, but only in those cases in which the mother had previously borne children, and the os uteri was relaxed, for there was serious and imminent danger in version, sometimes even under most favourable circumstances, of lacerating the cervix uteri. As this was the portion of the os uteri to which the placenta was attached, it was very vascular, and there were consequently two sources of danger, one from hæmorrhage and one from uterine phlebitis, consequent upon the lochia irritating and inflaming the lacerated cervix. We should therefore select our cases for turning. It was wrong to dilate the os uteri early. Dr. Collins turned in five cases; two died, the cervix uteri being ruptured. In one, the midwife, and in the other, Nature, removed the placenta, and the patients did well. We should turn when the birth was cross, and under the favourable circumstances before mentioned; but laceration was still imminent. He related a case in which a practitioner in Edinburgh had turned, hæmorrhage continued after delivery, but was arrested eventually by Dr. Simpson, who employed pressure with a breakfast-cup, which prevented the uterus relaxing. The patient made an imperfect recovery, and died at the end of six weeks. Examination revealed laceration of the anterior lip of the cervix, to which the placenta had been attached. The far better practice, in most cases, was the separation of the placenta. Dr. Simpson then entered at considerable length into his views regarding the anatomy of the placenta, and answered the objections of Drs. Lee and Ashwell on these points. He contended that the hæmorrhage was from the placenta, and gave his reasons, founded on anatomical demonstrations of the truth of the assertion.

Several gentlemen spoke on the subject.

Saturday, January 11th.

Dr. AYRES exhibited a specimen of

Aneurism of the arch of the aorta.

This case was remarkable only, first, from the circumstance of its having pressed upon the tracheæ and œsophagus, and the patient eventually sinking, without hectic or other severe constitutional symptoms, and simply from inanition; secondly, from the circumstance of one lung (the left) consisting almost entirely of one mass of military tubercles, and two or three small vomica near the apex, the other lung having only a few tubercles scattered about it. The

aneurism had exerted pressure on both bronchi.

A discussion of some length ensued on the nature and causes of tubercle.

MICROSCOPICAL SOCIETY.

Dec. 9th, 1846.

J. S. BOWERBANK, Esq. F.R.S. President in the Chair.

On the Application of Polarized Light in Microscopic Observations.

A PAPER by Mr. Legg, was read "On the Application of Polarized Light in Microscopic Observations." After noticing the remarks of Dr. Brewster respecting the advantages likely to be derived from the application of polarized light in the microscopic examination of delicate structures, Mr. Legg described a series of polarizing apparatus which may be readily adapted to almost any microscope, consisting, 1st, of a number of plates of crown glass, from which the light is to be reflected at an angle of 56° , in which position one portion only of the light is refracted, and another transmitted, each of which portions consists of light polarized in opposite planes. This arrangement is the best adapted to low single powers. 2dly, a plate of tourmaline, as free from colour as possible, and cut parallel to the crystalline axis: and 3dly, a Nicol's, or single image prism, being a portion of a crystal of Iceland spur, cut, and combined with a piece of glass, so as to throw out of the field of view one of the two images produced by the double refraction of the crystal. This he described as being the most eligible for the compound microscope, inasmuch as it is perfectly free from colour, and requires very little adjustment. He then described a series of experiments illustrating the most striking phenomena of double refraction, in which he employed the Nicol's prism adapted under the stage. A double refractor adapted to the eye-pieces, a film of selenite of uniform thickness placed in accordance with its crystalline axis, and a plate of brass perforated with holes from about $\frac{1}{16}$ th to $\frac{1}{4}$ th of an inch in diameter. In the first of these experiments, in which the double refracting crystal was placed over the eye-piece, two distinct images appeared, one of which revolved round the other when the eye-piece was turned round, thus showing the ordinary and extraordinary rays. In the second the Nicol's prism was applied under the stage, the other arrangements remaining the same. Upon turning the eye-piece, although two images are produced, but one is seen when half the revolution is performed, i. e., at 180° from the first position. Changes also take place at every other quadrant. In the third experiment, the selenite plate was interposed; the images

were now coloured, and presented the complementary colours at every quarter of a circle. When the hole in the piece of brass was of a large size, the images were seen to overlap, and white light was produced. The author concluded with some remarks upon the service likely to be rendered to microscopical examination by the employment of polarized light.

Correspondence.

ON THE ALLEGED ACTION OF CAMPHOR ON THE TEETH.

SIR,—Having observed in your journal of last week, a letter respecting the action of camphor on the teeth, I trouble you with the following observations, as, in my opinion, erroneous inferences might be drawn from the writer's statements.

Whatever experiments the writer of the letter in question may perform, I am thoroughly convinced that he will never find that camphor exerts any deleterious influence on the teeth *directly or indirectly*; on the contrary, camphor, instead of having any prejudicial tendency, acts most miraculously in preserving them; and in those cases where the gums are rendered soft and spongy, owing to a want of tone in their circulatory system, camphor is of essential service in stimulating them to proper action, producing contraction of their structure, and causing them to embrace the teeth more closely. If camphor be used in the form of Sp. Camphoræ, it is to the stimulant effect of the spirit upon the tender gums that the injurious symptoms quoted are to be assigned; for, if camphor be rubbed up with prepared chalk or some other convenient vehicle, none of the unpleasant effects produced in the former case are to be observed. I have noticed all the symptoms enumerated by Mr. Levison to be produced by the unlimited use of the tincture of myrrh in its undiluted state, and thus, arguing by the same rule, we might as well attribute the ill effects of that agent to the myrrh, instead of to its proper source, "the spirits."

The enamel of the teeth is composed wholly of fine phosphate and carbonate of lime, without even a trace of gelatine or cartilage, as stated by Mr. Levison, for the latter exists only in the substance of the tooth itself; therefore, it is obvious that nothing can act upon the enamel, except it be of a strictly chemical nature. When a tooth decays the process commences beneath the enamel, the enamel at length giving way. The enamel being deficient of gelatine and cartilage, and entirely destitute of any vascularity—in fact, a thoroughly inorganic

material—cannot be acted upon in the manner supposed by those who have ventured opinions upon the subject. Again, it may be asked, can camphor act upon that portion of the tooth denuded from whatever cause of its enamel? To this I should reply, No! Camphor would then preserve the tooth thus deprived of its natural investiture, and act, under these circumstances, in a strictly chemical way, in addition to the good effects upon the gums. Mr. Levison alluded to the precipitation of the camphor in a solid form upon the parietes of the teeth and the gums. But what is the appreciable quantity of camphor precipitated under such circumstances, (allowing it all its indirect and direct injurious properties); and, secondly, how long would it be allowed to remain under the use of a tooth-brush?

You will perceive that my remarks have been directed by a desire to invite the attention of the profession to a correct analysis of facts, before they pronounce their judgment upon them; for, of all sciences, there seems to be the most error engendered, and fallacies adopted, in this our "art and mystery."

I remain, your's obediently,

JULIAN WATSON BRADSHAW,
M.D. M.R.C.S.L. L.A.C.

Deddington, Jan. 6th, 1847.

. We have omitted some portions of this letter. Our correspondent should bear in mind that in commenting on the opinions of others, it is always advisable to adopt the rule of "*fortiter in re sed suaviter in modo*;" in other words, to use soft words and hard arguments. As we have already stated, we think there is an entire want of proof that camphor affects the teeth injuriously; but in descending into particulars Dr. Bradshaw appears to us to have fallen into error. The enamel, if we are to take the analysis of Berzelius, is not "composed wholly of fine phosphate and carbonate of lime, without even a trace of gelatin or cartilage." That this is incorrect, is proved—1st. by ammonia being evolved from the enamel when dried and heated, and—2d. by its becoming darker on incineration. The quantity of animal matter is very small; but this is an entirely different question.*

Then, again, Dr. Bradshaw asserts that, on account of this alleged absence of gelatin and cartilage, and of its being "a thoroughly inorganized material," the enamel *cannot* be acted upon in the manner supposed. The inference may be correct, but the premises are erroneous, or there is no truth in the well-known fact that some neutral organic

substances do not act upon and dissolve "thoroughly inorganised" materials, in cases in which such a property could not be predicted to exist in them *a priori*. Thus, sugar easily combines with and dissolves lime, and gelatin easily dissolves that very insoluble substance, phosphate of lime. We know of no other explanation of these results than that the facts are so, and that experiment has long since removed any doubt which might have existed on the subject. With regard to the alleged action of camphor we may say, *adhuc sub judice lis est*. Chemistry brings daily to light so many strange and unexpected results, that it is quite as well not to be "thoroughly convinced" before a sufficient number of observations made by different individuals, have been accumulated.

DISINTERESTED CONDUCT OF DR. MEAD.

THE GOLD-HEADED CANE was published by the late Dr. Macmichael in the year 1827: it is a most amusing vehicle of memoir and anecdote, and the more valuable because the author had access for much of his information to the Records of the Royal College of Physicians. In the life of Dr. Mead, the author gives a brilliant narrative of a donation of 5000 guineas to Dr. Freind, which Mead had received from Freind's patients during the incarceration of the latter in the Tower for a political offence.

I have not been able to trace this story to a more distant date; but since 1827 it has been again and again published. Pettigrew adopts it in the "Medical Portrait Gallery," and Professor Marx alludes to it in his "Letters from the Living to the Dead," for a translation of which from the German the English reader is indebted to Dr. Mackness, who has made these letters the basis of a curious and interesting volume—"The Moral Aspects of Medical Life," 1846.

I am almost afraid of being thought to act irreverentially towards Dr. Mead by calling in question this munificent act of friendship. Fortunately his character stands so high as not to require the aid of fiction to raise it; nor, indeed, was he a man who would have allowed his fame to rest upon a false assumption.

The actual history of the transaction is this:—Mead and Freind, though endeared to each other by much congeniality of mind and disposition, were attached to opposite parties in politics: Mead siding with the Ministry: Freind (one of the few instances of physicians returned to the House of Commons) taking his station with the Opposition; and upon one occasion, during a temporary suspension of the Habeas Corpus Act, and in a turbulent state of the House, he spoke with so much freedom against the measures of Government that he was taken

* Berzelius, *Traité de Chimie*, vii. 479; Fromherz *Lehrbuch der Medicinischen Chemie*, Vol. ii. p. 232; also Brande's *Manual*, p. 1408.

into custody by a State warrant. Shortly afterwards, Sir Robert Walpole, the Prime Minister, was taken very ill, and sent for his usual physician, Dr. Mead; but he, indignant at the conduct which had been adopted towards Freind, firmly and positively refused to prescribe for Sir Robert till he had first obtained the liberation of his imprisoned friend; Mead himself, and three other physicians, Drs. Hulse, Livett, and Hall, becoming sureties for his good behaviour. It was upon this occasion that Mead is said to have acted with the munificence above mentioned.

The extent of Dr. Mead's practice was much greater, and more lucrative than that of any other physician of his day. Dr. Maty, in his "Life of Mead," says, that it amounted in one year to £7000 and upwards, and that for many years it was from £5000 to £6000. To what Freind's practice amounted is not known; probably it did not equal one half of Mead's. £2000 a-year must, at the beginning of the last century, have been a large amount of practice.

Now, if we look into the facts of Freind's imprisonment, we learn that he was taken into custody in the month of March, 1722, and was at first confined to his own house under the care of a State messenger; in a short time afterwards he was committed to the Tower, where he remained till the month of June, when, in consequence of Mead's manful and determined expostulation, he was set at liberty; so that the entire duration of his imprisonment was not quite four months.

Every practical man must feel convinced that Freind could not in four months have had a sufficient number of patients to supply the immense sum of 5000 guineas in fees; nor would it have been possible for Mead, in addition to his own large practice, to visit so many patients. The story cannot be true. If we content ourselves with possibilities, and estimate the sum at 500, instead of 5000, guineas, a very large amount of admiration and respect will still be due to Dr. Mead for such a manly, bounteous, and disinterested act of private regard and friendship.—I remain, &c.

SAMUEL MERRIMAN.

34, Brook Street, Grosvenor Square,
Jan. 8, 1847.

A CASE OF TWINS PRECEDED BY DISLOCATION OF THE INFERIOR MAXILLA.

SIR,—I was lately called to Mrs. H., of Bell Barn Road in this town (Bristol), on the morning of the 13th December last, at half-past 1 A.M. On my arrival I found that she had given birth to a male infant, the funis of which being immediately tied and divided, I examined her mouth which

(the messenger had previously informed me) was wide open, and could not be closed by any effort of the patient. This proved to be a dislocation of the inferior maxilla which occurred during a violent attack of vomiting immediately preceding her delivery. The reduction was speedily and easily accomplished. I then examined the uterus, with a view, of course, to the removal of its contents, and discovered that there was another foetus, presenting naturally. I ruptured the membranes, and the second child was born in a few minutes. The birth of the two children and reduction of the dislocation did not occupy above twenty minutes altogether. There were two separate placentæ.

Thinking this to be a case of uncommon occurrence, as I do not recollect ever having read or heard of such a one, you will oblige me by inserting it in the next number of your excellent periodical, should you deem it of sufficient interest.—I am, sir,

Your obedient servant,

ALFRED HERLEY, M.R.C.S. &c.

THE COMPOSITION OF CHLORINATED LIME.

SIR,—Some doubt appears to exist in the minds of chemists as to the nature of Chlorinated Lime, *i. e.* whether it is a mere mechanical mixture of chlorine with lime, or whether any definite chemical union takes place between them. The following fact may tend to remove that doubt, and in a manner establish its constitution. A bottle of the substance in question was left for some months exposed to the action of light, which, as is well known, is highly favourable to chemical combination: the writer, upon touching the cork, found that it was expelled with some force. Upon examining the gas that had accumulated by the usual tests, it was found to be pure oxygen.

We may therefore fairly infer the following to be the process of its formation:—

The chlorinated lime is, upon this supposition, a mechanical intermixture of chlorine with oxide of calcium. The circumstances being favourable for the slow decomposition of the lime by the chlorine, oxygen is eliminated, and the chlorine enters into direct union with the calcium. If it should be doubted whether chlorine possesses the power of expelling oxygen from any compound, I must refer to other well-known cases.

The same results took place in a second and third experiment, when the bottle had remained at rest for a few weeks after each trial. Whether this fact has been before noticed or not, the writer of the above does not know, but he has certainly not seen it stated in any work on chemistry.

HENRY POWER.

P.S. At some future time some experi-

stance, of pain constantly referred to a small circumscribed spot on the back, and of slightly obstructed deglutition. About three months before admission, these symptoms became very much worse, and when he presented himself at the hospital, he was complaining of most intense pain in the back, about two inches below the junction of the neck and thorax, of very considerable difficulty and pain in swallowing, accompanied by some pyrosis, and of a constant hacking cough, of about two month's duration. His left pulse was decidedly larger and stronger than the right, but there was no stethoscopic indication of cardiac or other pectoral disease. There had never been hæmoptysis or hæmatemesis, but on the 9th, the day after his admission, hæmoptysis to a larger extent took place, and was followed, on the 10th, by profuse hæmatemesis. No fresh hæmorrhage took place until the 13th, when hæmatemesis recurred, and he sank in the course of three quarters of an hour. The following is the result of the post mortem investigation:—

Thorax.—The right lung was universally and firmly adherent to the walls of the chest, and was gorged with blood and frothy serum towards its posterior part. The left pleura was healthy, and the left lung crepitant throughout, containing far less blood and serum than the right. Pericardium and heart healthy, valves healthy; coagula in the cavities of the heart small, and, for the greater part, coloured. The whole of the thoracic aorta was thickly studded with atheromatous deposit, which existed, however, in greatest quantity in the ascending portion of that vessel. Just at the arch of the aorta, in the space between the origins of the innominate and the left carotid but extending chiefly down the posterior wall of the vessel, was a large rugged opening, of the size of half-a-crown, leading into an aneurismal pouch, containing coagula of blood of various colours; this pouch was formed by the external coat of the artery, thickened, in some measure, by the surrounding tissues. Transversely, it projected from a little beyond the right margin of the innominate, which it somewhat pressed upon, to a little beyond the left margin of the left subclavian; superiorly, it passed about an inch above and behind the origin of the large vessels arising from this part of the aorta. But its chief projection was backwards, and rather to the left side, where it had insinuated itself between the trachea and œsophagus, and having become firmly adherent to these parts, had subsequently given rise to ulcerative absorption, so that the cavity of the pouch was thus made to communicate with that of the trachea, as well as with the œsophagus. The opening into the trachea was about the size of a

sixpence, and irregular in shape, the cartilaginous rings have been partially and irregularly absorbed: it was situated about an inch above the left bronchus. The ulceration into the œsophagus, of an oval shape, and somewhat larger than a shilling, had irregular margins, the greater part of which were blocked up by a dark slough adherent to the neighbouring tissues. Part of this slough, however, had separated, and had evidently given passage to a large flow of blood, which was traced in the shape of a firm, dark coagulum, into the lower part of the œsophagus towards the abdomen.

Abdomen.—The stomach was distended by an enormous, firm, dark coagulum of blood, which had exactly taken the shape of that organ, and retained it when removed from its situation. The intestines themselves were also filled with half digested blood, of a black grumous character. The mucous membrane of these parts was quite healthy. The other viscera were quite healthy.

In a pathological point of view, Dr. Fuller conceived this case to be exceedingly interesting. For it proves that the yielding nature of the œsophageal tube prevents its being easily subjected to pressure calculated to give rise to ulceration, and that hence arises the rarity of the occurrence of an aneurismal tumor bursting into the œsophagus. The cough and symptoms of pressure on the windpipe were only of two months' standing, yet the parts of this apparatus which had been subjected to pressure had been more completely destroyed than those which, for the reason above stated, had for nearly thirteen months resisted the ulcerative process.

Dr. Fuller thought the double ulceration into the trachea and œsophagus was rare, as he could find no record of a similar occurrence. From the previous attack of hæmoptysis, and the condition of parts as found after death, there could be little doubt that, had not the blood made its escape into the œsophagus, a violent effusion of blood into the lungs would soon have terminated the patient's existence.

Dr. CLENDINNING had very rarely seen absence of hypertrophy of the heart in cases of aneurism of the arch of the aorta; and he thought that though this condition could sometimes not be detected by the eye, the balance would indicate it.

Dr. NORMAN CHEVRS related the particulars of a case of aneurism of the arch of the aorta, in which the heart was rather smaller than natural, and could be invaginated into the aneurismal sac, the valves having become greatly enlarged, and equal in size to those of a bullock's heart. This and similar cases had led him to the inference that hypertrophy was not a necessary result

of aneurism of the aortic arch, and did not take place in those instances in which the increased development of the aortic valves was great enough to prevent regurgitation.

Mr. AVERY exhibited

A preparation taken from a Patient in the Charing-Cross Hospital, who had Died on the Sixth Day after the Operation of Laryngotomy.

The patient, aged forty, who had, prior to admission, been treated as an out-patient for secondary syphilis, was suddenly seized with symptoms of acute laryngitis. Laryngotomy was resorted to on the night of the attack, with great relief of the dyspnoea. The slightest attempt, however, at swallowing, was followed by convulsive cough and regurgitation through the nostrils. After the third day, he could breathe pretty freely through the natural passage when the artificial one was closed, and he began to swallow more easily, although some portion of the food came through the tube in the larynx. On the fourth day, erythema extended from the wound to the upper part of the chest, affecting also both forearms and elbows. He continued to go on favourably till the sixth day, when he died quite suddenly. The specimen illustrated that thickened condition of the submucous cellular tissue of the larynx which had, during life, caused an almost entire closure of the rima. The epiglottis was in a state of rigidity, valvular action being consequently lost, and there were observed two or three spots of albuminous exudation on the mucous membrane, and a film of it on either vocal chord. The deep glands on either side of the thyroid cartilage had suppurated, and on the left side was a quantity of pus, closely confined in the dense cellular tissue, extending interruptedly into the loose cellular tissue behind the oesophagus, to within two inches of the stomach.

Mr. Avery drew particular attention to the proximity of the artificial opening in the larynx to the vocal chords. He thought that this circumstance suggested the propriety of opening the trachea at its upper rings; and in support of this view, he remarked that no less than five fatal cases of laryngotomy, at more or less remote periods from the time of operation, had lately come under his notice, and in which cases he believed that disease in the vocal chords, arising from the proximity of them to the tube introduced into the artificial opening, had been mainly the cause of death.

Mr. AVERY also exhibited a specimen of a polypus of the stomach.

Dr. HERBERT DAVIES exhibited a specimen of

Heart affected with Pericarditis and Endocarditis, with partial conversion of the

Inflammatory Exudation into Ossific Matter.

The pericardium was, in all parts, adherent to the heart, the adhesions, however, being easily detached by the finger: over the right auricle was found a portion of ossific matter, half an inch long, and a quarter of an inch broad, partly loose, and partly embedded in the tissue of the organ separating its muscular fibres. Several fibro-cartilaginous deposits over the right ventricle, one of them commencing to be ossified; cavities of the heart, and more especially the left auricle, dilated and hypertrophied; the aortic valves considerably thickened, and incapable of preventing the regurgitation of fluid; the mitral valve thickened and opaque in its entire extent, and on its auricular surface presented a large deposit of bone, which formed a rough projection into the auricular cavity.

Dr. DAVIES remarked, that there was general dropsy, and that the pleurae contained a large quantity of serum. The lungs, in consequence of the compression to which they had been subjected during life, and of the difficulty of the transmission of blood through them from the mechanical impediment at the contracted mitral orifice, presented, on many portions, a fleshy appearance or carnification. Abdominal cavity distended with serum; all the organs contained in it were gorged with blood. The spleen weighed nearly two pounds, and was greatly enlarged. The liver presented the nutmeg appearance, the result of impeded circulation through the heart, and the kidneys were also deep red, and evidently ingested through their entire extent.

Mr. H. HAYNES WALTON exhibited a cast of

Inguinal Hernia of the Cæcum, and part of the Colon, with an entire Peritoneal Sac.

The patient, aged sixty, from whom the cast was taken, died very suddenly, having suffered before death from chronic inflammation of the brain, and its membranes. The post-mortem was made twenty-four hours after death. The hernial tumor was on the right side, and was large, rounded, and symmetrical, the communication with the abdomen being, in comparison with the protruded portion, very small. The skin of the pubis was so distended over the penis as to conceal it. There was a distinct fluctuation anteriorly. The whole of the cæcum, the ascending and part of the transverse colon; had passed into the scrotum, the inguinal canal was destroyed, there being a direct opening from the abdomen. There was no stricture, although the protruding points were closely adapted to the opening. The mesenteric portion of the peritonæum at-

taching the cæcum to the iliac fossa, together with the ascending and part of the transverse meso-colon, were drawn down from their positions, but still maintained connexions by bands of thickened cellular tissue. The stomach was pulled quite vertical. The small intestines were full of feces.

Dissection of the hernia.—The skin was not thickened, and but slightly connected to the subjacent parts; there were distinct fasciculi of the cremaster muscle, passing anteriorly and laterally; the testicle was in front, and nearly in the centre; the vessels of the spermatic were very much separated; the vas deferens and the spermatic artery lay on the inner side, and were nearly mesial; the veins were about an inch external; the fascia transversalis was much thickened, and partook of a fibrous character; it was easily separated from the sac, which was about a line in thickness, and quite opaque, not containing any fluid: the protruded parts were not in any way twisted, they were filled with fluid feces; the omentum was rucked up into a small, hard lump at the bottom of the sac; there was no adhesion of any kind, either of omentum or intestine, to the sac. The relation the parts bore to each other in their passage through the ring, were, internally, ileum, next omentum, and, externally, colon; not more than an inch of the ileum had passed through the ring; the cæcum was in an unusual degree covered with peritoneum; the protruded parts presented no marks of constriction.

MR. WALTON remarked, that it was probable that there had been originally a protrusion of the small intestines, and at some subsequent period they had passed up, and the cæcum descended, and ultimately pulled the colon after it; there must have been a perfect meso-cæcum. This circumstance, of necessity, facilitated its descent, whether it passed into a sac already formed or not. Although there were no adhesions of the protruded parts to the sac, a return of them would have been difficult, if not impossible, on account of the smallness of the ring, the large quantity protruded, the locking of the cæcum against the outside of the ring, and the lump of hardened omentum. The smallness of the neck of the hernia is sufficiently explained by only one portion of large intestine passing through the ring. The fluctuation produced by the fluid feces occasioned the idea of a complication of hydrocele with hernia.

MR. NATHANIEL WARD exhibited a specimen of

Caries of the left Temporal Bone, affecting the External Ear, and extending through the Tympanum into the Anterior Wall of

the Petrous portion, accompanied with a Perforating Ulcer of the Dura Mater.

The carious condition of the bone had implicated the temporo-maxillary articulation, which was destroyed, with the exception of the fibro-cartilage. Opposite the carious anterior wall of the petrous portion, an ulcer, with smooth borders, about the size of a threepenny-piece, was observed in the dura mater. The entire surface of the left hemisphere of the brain was covered over by a layer of greenish-brown lymph; and a large quantity of arterial blood, apparently from a branch of the middle meningeal, which had ulcerated, was effused on its anterior, lateral, and upper portions, and on the corresponding parts of the dura mater. The condition of the brain and dura mater was illustrated by a drawing. The preparation was taken from a girl aged sixteen, who had been treated in the London Hospital, by Drs. Frampton and Fraser, for acute endocarditis.

On her admission, the purulent discharge from the ear was not sufficiently great to attract much attention, and she never complained of any head symptoms. As soon, however, as she was placed under the influence of mercury, the discharge greatly augmented; and sixteen days after admission, the soft parts of the external ear began to slough. The discharge increased daily in quantity, and ultimately became very profuse and horribly foetid. About six weeks after her admission, profuse hæmorrhage came on at two distinct periods, and she died comatose, no paralysis or loss of consciousness having been previously remarked.

MEDICAL SOCIETY OF LONDON.

Monday, Jan. 11th, 1847.

MR. DENDY, PRESIDENT.

MR. W. B. KELLOCK related a case of
Ovarian dropsy,

which had been attended by himself and Dr. Golding Bird. The patient was a robust lady, of sallow complexion, aged sixty-three. She was married at the age of twenty, and became the mother of eleven children; her last child was born at thirty-seven years of age. She menstruated regularly up to fifty-two. She had always led a quiet life, lived very abstemiously, and enjoyed tolerably good health up to the summer of 1844, when she first complained of shooting lancinating pains in the legs, with sense of irritation in the primæ viæ, intense itching of external genitals, and scanty urine; the bowels also were obstinately costive, and never relieved without the aid of purgatives. These symptoms

lasted up to August, 1845, when the abdomen began to swell uniformly, accompanied by œdema of both legs, particularly the left; the general health also became much impaired. Iron was administered freely and the health improved. She now commenced to menstruate again, that functional discharge having ceased ten years before. The swelling of the legs diminished, but the belly increased in size gradually, up to February, 1846, when it fluctuated most distinctly. It was now evidently a case of encysted dropsy. She was tapped in the mesial line, and twelve ounces of port wine coloured fluid withdrawn. Diuretics, mercurials, and other medicines suited to her case were employed, but in August it became again necessary to tap her, and seventeen quarts of a similar fluid were drawn off. The tapping was repeated on the 27th of December, and the patient sunk on the 8th of the present month. In addition to the curious circumstance of menstruation being regular and natural as to quality, this poor patient suffered from the most intolerable sexual excitement, and great pain in the course of the right sciatic nerve.

The body was examined forty-eight hours after death.—The integuments below the umbilicus, which hung between the legs like an apron, were three inches thick. All the abdominal viscera appeared healthy. The uterus was small and exceedingly soft. The cyst, which was adherent anteriorly, had two compartments; they contained seven or eight quarts of fluid mixed with pus, with deposits of albuminous matter, the result of recent inflammation in their interior. There were two or three smaller cysts developed in the walls of the sac. The base of the sac was occupied by a large encysted tumour, the size of a human head, completely filled with cells containing what is termed colloid matter. The right ovary, about the size of an egg, was remarkably soft, with a central cavity, like an enormously enlarged relic of a corpus luteum.

In the discussion which ensued on this case, it was thought that the post-mortem explained that the intense sexual excitement was the result of the condition of the ovary, which contained appearances similar to a large corpus luteum. It was remarkable that menstruation should have occurred at so late a period of life, and after its cessation for ten years previously; such a circumstance was undoubtedly rare. The discussion then had reference to the nature of encysted ovarian disease; an opinion having been hazarded by one of the speakers that it was invariably malignant. As, however, this point, connected with some recent discoveries on the subject, will shortly come before the Society in a more definite form, we postpone our report.

SOUTH LONDON MEDICAL SOCIETY.

January 7th, 1847.

CHARLES WATERWORTH, Esq. President, in the Chair.

MR. HICKS read a paper

On Malaria, with a few Cases illustrative of its existence on the Surrey side of the Thames.

The author first gave a brief outline of the generally received opinions regarding malaria, by which he understood a vitiation of the atmosphere by some noxious exhalations from the soil acting in some way highly detrimental to animal life, but of the nature of which poison nothing as yet is known for certain, being too subtle for the present means of investigation. Heat, moisture, and putrescent vegetation, are generally considered the requisite elements for its production, but which of the three is most essential is not yet determined; for although it is generally acknowledged that intermittent and remittent fevers occur most frequently in marshy districts, it is equally certain such diseases exist where these conditions do not appear to be present; in such cases there is probably some neighbouring peculiarity which may render it similar to a marshy place, as the nature of the soil, bad drainage, and deficient cultivation, to which may be added, bad ventilation, the result of a low situation. That moisture is necessary for its production is evident from its being always present, and from the absence of the disease in those places where it formerly prevailed, on account of more perfect drainage, as seen in parts of England, especially in Essex, intermittents existing in those places at present having lost much of their obstinate character; but still, in those places comparatively free from ague, its place is supplied by the diseases assuming an intermittent type at some period of their progress, and requiring the exhibition of quinine for their cure. Although remittent and intermittent fevers furnish the most certain proof of the existence of malaria, yet there is a class of diseases depending on some visceral obstruction of the liver or spleen, as evidenced by the characteristic pallid, sallow, aspect, and pearly whiteness of the conjunctiva, but not having the intermittent character. The author then applied conclusions from the above remarks to the district under consideration, which must be considered unfavourably situated for proper drainage, and covered with stagnant pools, ditches, and other active sources of malaria, among which the numerous openings of the common sewers should not be omitted. The author then referred to cases under his own immediate observation exemplifying the existence

THE SALTS OF MORPHIA PROPOSED AS
ANTIDOTES TO NUX VOMICA.

M. COURAL states, that a salt of morphia has the property of counteracting the effects of nux vomica. It appears that a dog which belonged to him accidentally swallowed, as M. Coural supposed, a dose of the poison. He gave it the usual emetics without any benefit, and the muscular rigidity continued through the night. M. Coural then gave the dog a grain and a half of muriate of morphia dissolved in water; and the animal had scarcely swallowed it before it recovered, as if by enchantment, for it immediately regained the use of its limbs, and ran off so briskly, that it was recaptured with some difficulty. There was some want of power in its hind legs, as if there were partial paralysis: but in forty-eight hours the animal had completely recovered.—*Journal de Medecine*, 1846.

. The reporter of this case is in the very unfortunate position of proving too little and too much. Thus it was only suspected, and not known to a certainty, that the animal had swallowed nux vomica. If it had taken a dose of the poison, it must have been a very small one, as it lived through the night; and, lastly, antidotes are never known to act by enchantment, or with that electro-telegraphic rapidity which M. Coural describes. The dog, in fact, ran off before there was sufficient time for the morphia to become absorbed!

OBITUARY.

On the 4th inst. at Andover, in the 83d year of his age, Philip Henry Poore, M.D. He was the senior liveryman of the Society of Apothecaries.

On the 6th inst. at Studham, Herts, Thomas Sweeny, Esq. Surgeon.

At his residence, the Great Salterns, near Portsmouth, on the 29th ult., Francis Sharp, Esq., formerly surgeon, &c. of that town, aged 77.

Lately, at Brussels, Dr. Hauff, formerly Professor of Chemistry and Physics in the University of Ghent.

At Nogent-le-Rotrou, M. Deneux, formerly Professor in the School of Medicine, Paris.

On the 1st December, 1846, at Constantinople, Nedjib Effendi, formerly Chief Physician of the Ottoman empire.

On the 9th inst. W. Youatt, Esq. the well known veterinary surgeon, and editor of "The Veterinarian."

On the 10th inst. in his 36th year, J. E. Jones, Esq. surgeon, Gravesend, Kent.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer 30.27
" " Thermometer 29°
Self-registering do. max. 45.5 min. 11°
" in the Thames water — 33.5 — 33°

• From 13 observations daily. b Sun.

RAIN, in inches, '03: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 7° below the mean of the month (36.1°). The extreme hebdomadal range in the self-registering thermometer was 34.5°.

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Jan. 2.

BIRTHS.		DEATHS.		Aver. of 5 yrs.	
Males....	861	Males....	750	Males....	403
Females..	789	Females..	751	Females..	475
	1650		1501		878

CAUSES OF DEATH.

CAUSES OF DEATH.	1846	Winter av.
ALL CAUSES	1510	1068
SPECIFIED CAUSES	1502	
1. Zymotic (or Epidemic, Endemic, Contagious) Diseases ..	170	163
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	142	112
3. Brain, Spinal Marrow, Nerves, and Senses	236	170
4. Lungs and other Organs of Respiration	551	354
5. Heart and Bloodvessels	70	32
6. Stomach, Liver, and other Organs of Digestion	92	70
7. Diseases of the Kidneys, &c.	13	8
8. Childbirth, Diseases of the Uterus, &c.	18	12
9. Rheumatism, Diseases of the Bones, Joints, &c.	14	7
10. Skin, Cellular Tissue, &c.	5	2
11. Old Age	103	81
12. Violence, Privation, Cold, and Intemperance	88	30

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	7	Convulsion	67
Measles	10		
Scarlatina	16	Bronchitis	163
Whooping-cough	42	Pneumonia	133
Typhus	49	Phthisis	141
		Dis. of Lungs, &c.	24
Dropsy	16		
Sudden deaths ..	38	Teething	13
		Dis. Stomach, &c.	7
Hydrocephalus ..	40	Dis. of Liver, &c.	14
Apoplexy	47		
Paralysis	33	Childbirth	14
		Dis. of Uterus, &c.	3

REMARKS.—The total number of deaths was 442 above the winter average. We have elsewhere stated that this excessive mortality was chiefly due to diseases of the Organs of Respiration (see p. 70).

NOTICES TO CORRESPONDENTS.

A Y Z is informed that it is by no means necessary that he should keep a copy of his paper. If not inserted, it will be left for him at the office of the Printers, 57, Skinner Street, Snowhill.

Dr. Laycock's Lecture on Bronchitis, and the communications of Dr. Rowland, Dr. Hall, Dr. C. H. Jones, and Dr. Camps, will be inserted in the following number.

The letter of Medicus next week.

RECEIVED.—Mr. Tomes.—Mr. Huxton.—The Scotch Reformers' Gazette.—Dr. King.—Mr. W. H. Bainbridge.

Lectures.

A CLINICAL LECTURE ON
BRONCHITIS,

Delivered at the York Medical School,

By T. LAYCOCK, M.D.

Physician to the York Dispensary, and Lecturer
on the Theory and Practice of Medicine.

*Effects of cold—who suffer?—symptoms of
bronchitis—complication with intermit-
tent fever—cases—importance of the
diagnosis—necessity for careful scrutiny
—bronchitis in the aged—prophylaxis—
best mode of breathing—the “hardening”
system, and false facts therewith—fire in
bed-rooms—curative treatment—use of
teribenithinates—Cases for hydrochlorate
of ammonia—Bronchitis fetida—may
be intermittent—Bronchitis arthritica—
teasing cough—caution as to the use of
opiates—injury done by quacking chil-
dren.*

In my last clinical lecture I referred to certain atmospheric changes then in course of progress, and which (following Ermann and the celebrated Humboldt) I ventured to refer to certain meteoric phenomena occurring during the second week in November. I observed that there was first an increase of temperature and meteoric phenomena; then a diminution of temperature, and therewith an increase of deaths from diseases of the pulmonary organs. I have so often noticed that a fall in the temperature is followed by such an increase, and the weekly tables, immediately subsequent to such change, so constantly also shew an increase of deaths from diseases of the lungs, that I have no hesitation in recommending the generalization to your notice as one embodying a sound general principle. There never can occur a fall in the temperature without an increase of pulmonary disease.

This is a remarkable circumstance—not wonderful, but remark-worthy, as the Germans say. You of course inquire how it happens?—who are the persons who suffer from the cold?—what in them predisposes to pulmonary disease?—what is the disease excited? To all these questions our *poli-clinical practice* affords a ready answer. The persons who have come to us are the delicate and feeble, or those already suffering from some chronic disease of the lungs; and the most common disease excited is inflammation of the mucous membranes of the air-tubes or bronchi. I have not, I regret to say, an exact account of the number of persons who have applied to me for relief under these

circumstances. However, not fewer than twenty have applied at the Dispensary, and, I think, only one case of pneumonia and one of pleuritis amongst them all. The majority are persons labouring under phthisis, or some form of asthma or other chronic disease, or are young children. Even the case of pneumonia was in a person who has had disease of the lungs for more than a year, and that of pleurisy in a poor, delicate, aged female.

With regard to the symptoms of bronchitis, they are, I think, unmistakable. The stethoscopic phenomena are very various, from the circumstance just mentioned, namely, the complications; the other symptoms—the pyrexia and functional disorder—are pretty uniform. The patient is “stuffed at the chest,”—an expression having reference to the partial closure or filling up of the bronchial tubes, consequent on the application of cold. Now this narrowing of the passage along these tubes is not always caused by an increased secretion of mucus; in children, in persons of feeble health, and even in persons with emphysema or dilatation of the bronchi, at first there is no increased secretion, but, on the contrary, it is diminished. They say the cough is tight; but in some cases the mucous discharge seems increased from the first. You have an atrocious cough, a tussis ferox, and an atrocious expectoration correspondent therewith,—an expectoration rather viscid, copious, white, and frothy.

Sometimes there is no pain in the bronchi; sometimes the patient says his chest is sore; sometimes there is a little dull pain in one or other side, but not much, and only perceptible when coughing violently. All these symptoms will differ according to the condition of the lungs previously to the attack. The head very often suffers, partly from want of sleep, partly, I suspect, from pulmonary congestion, and sometimes from inflammation extending from the Schneiderian membrane to that lining the frontal sinuses; and there is severe headache. Then you have the ordinary pyrexial symptoms.

The usual complications of bronchitis must, I think, be tolerably familiar to you; but there is one complication I think you have not seen, as there have occurred to me only one example in Dispensary, and two in private practice. I referred to it, however, in my lecture on the morbid effects of malaria. It is a complication of remittent or intermittent fever of a low still type, or of a malarious cachexy, with this inflammatory condition of the pulmonary mucous membrane. A man came early on Tuesday to me, complaining of illness; he felt very ill, and breathed with difficulty; his pulse was 102; his skin somewhat dry and hot; his tongue dotted with red points, but having

a dull yellow fur on it. Turning from the tongue to note the complexion, I observed that it was of a dull waxy yellow, not icteric exactly,—not so bright as that,—but reminding the observer of the sort of tint those persons exhibit who suffer from the effects of malaria; yet the symptoms he complained of—as, for instance, the “stuffing” in his breathing, the teasing cough, the frothy white expectoration, the headache,—indicated bronchitis. The day on which he felt ill was one of great cold (being Thursday, Dec. 3rd, on which day the thermometer in London sank to five degrees below freezing point) and this confirmed the diagnosis. Circumstances, however, did not allow me to examine the condition of the lungs by means of the stethoscope; but it was manifest he suffered from acute bronchitis. There was pain, however, in the hepatic region; and this, and the peculiar complexion, led me to inquire into the order of succession of the febrile phenomena. The result was, information to the effect that, between nine and ten o'clock every night, the patient “shook as though he had an ague fit; his teeth chattered; and all the clothes he could heap upon himself did not warm him.” After shivering, he became hot, and therewith his breathing became so bad that he was obliged to sit up in bed. Now I did not think my diagnosis would be complete without an insight into the ætiology of these morbid phenomena, and I certainly expected to find that he resided in a malarious locality; but he did not: it was a dirty confined yard enough, but not a malarious one. Fortunately it occurred to me to ask where he worked, and I found that he had been engaged in out-door farm occupations on low marshy ground, five miles from York. This information rendered the diagnosis complete. I prescribed small doses of blue-pill, frequently repeated, and combined with henbane; and I also ordered him a grain of the sulphate of quinine every four hours. This was on Tuesday. On Saturday he had lost all his “cold shudders,” and his cough was much better, so that the results of the treatment confirmed the diagnosis.

One of the cases in private practice was that of a patient with excessive dyspnoea, white frothy sputa, and most troublesome cough, for which various remedies had been given, and with so little success, that he despaired of being any better. When I was called in, I gathered from the detail of his symptoms that there was something like a paroxysm of an intermittent every night, but the phenomena were very obscure. However, as he had the icteroid tint, and there was an ample source of malaria in the court-yard of his house, and, besides, as the ordinary remedies had been found useless, I adopted the plan of treatment described

above, and the results were very satisfactory. An amelioration of all the symptoms quickly followed.

The other case in private practice was that of a little girl, aged eight years. Here there were evening paroxysms of fever, with the thoracic symptoms greatly increased in intensity. In fact, when I was called in, and made my visit at ten o'clock at night, leeches were drawing blood from the chest, the surgeon in attendance being much alarmed by the excessive dyspnoea and pyrexia; yet, on the morning of that day, the child had played about. On inquiry, I found that a similar sequence of phenomena had taken place previously for several days in succession—evening, exacerbation; morning, remission, but not an intermission—not complete absence of pyrexia and thoracic symptoms. Close to the door of the house, I found a most abundant source of miasma. I did not venture to give quinine in this case. I now think it might have been given with safety. However, minute doses of calomel every hour, topical bleeding, and an ordinary febrifuge, seemed to restore the patient to health, and the febrile phenomena, at least, disappeared entirely. Unfortunately, exposure to cold during convalescence was followed by an attack of laryngitis, which carried off the patient in four days.

I am inclined to think that, if we inquire more carefully into the examples of inflammation presented to us for treatment in spring and autumn, we shall find that the inflammatory action is much oftener complicated with a malarious diathesis or cachexia than is generally suspected. Malaria will lie dormant in the system for some time; of that we have abundant proof. Some of the older writers even say that the spring intermittents are caused by the malaria of the previous summer and autumn. This would be difficult to prove; but it is well established that the poison will lie dormant for a considerable period. Malaria, thus dormant, is, perhaps, only so inasmuch as it excites no regular febrile phenomena. It may, nevertheless, be active in undermining the system, and making it ready for the pernicious influence of cold or other exciting causes of disease.

What is the diagnosis in these cases? you will ask. I will allow that it is difficult; but for this reason you must be the more particular—the more searching in your inquiries. Scrutinize the history of the case, and especially in those particulars bearing upon the suspected malarious origin of the affection. The season of the year, the residence or place of work of the patient, the order as to time of the phenomena, the complexion and expression of countenance, are circumstances likely to throw some light on the case. If they afford ground of suspicion,

you may then give quinine tentatively, and with the other remedies indicated, and watch the results.

I do not think you need have much difficulty in the diagnosis of the other complications. How the cold acts on the lungs and induces inflammation, can only be explained by a theory which would be out of place here. Its effects on the mucous membrane of the lungs may be divined by noting its effects on the mucous membrane of the nares. It is an excitant, as the noses of people during this cold weather testify. How it irritates we need not inquire now. We know that it does so act, and sometimes very quickly. Children and old people may die in a few hours in consequence the pulmonary congestion it induces. They are "doubled up" by the cold. Perhaps old persons differ the most frequently in this way; and with these you must be cautious in your diagnosis. They will need stethoscoping, or, at least, never omit to notice the number of respirations per minute; for the general sensibility of very aged persons is not great, and sometimes that of the pulmonary tissue in particular is small. The blood is imperfectly aerated; but the appetite for air is not excited; the *besoin de respirer* is not felt; and thus your aged patient may be tottering on the very edge of the grave and ready to fall from pulmonary congestion, and yet make no complaint about the chest.

The treatment of bronchitis should be both prophylactic and curative; but prophylaxis is the nobler and the more important. Knowing the effects of cold upon the pulmonary mucous membrane, you should strenuously impress upon those of your patients already predisposed to inflammatory action there, whether from hereditary taint, or from acrofulous debility, or from actual pulmonary disease, the deep importance of most sedulously guarding themselves against the effects of cold. It is well for delicate people to breathe through a "respirator" or a kerchief; but the nostrils constitute a natural respirator; so advise your patients to breathe through them, and not the mouth. In fact, it is always advisable to do so, because the lining membrane interrupts numerous particles floating in the air we breathe, and, in cold weather, warms the air as it passes through the nostrils on its way to the lungs. At night, people are more apt to breathe through the mouth; and I believe night is the most dangerous period of the twenty-four hours; and this partly because the cold is then the greatest, and partly because the patient is snug and warm as regards the temperature of the skin while well covered with the bed-clothes, but is breathing a cold atmosphere, and, therefore, applying air of a low temperature to the pulmonary mucous membrane. New bed-

curtains prevent ventilation, by preventing the free circulation of the air; and curtains even of muslin will, I think, in some degree, do this; yet, perhaps, a gauze bed-head might be ventured on; but, whether or not, never omit to advise your aged patients to have a good fire in their bed-room if they can afford it, and to guard carefully against the continued breathing of a cold atmosphere. Many very sensible persons are very foolhardy respecting this "luxury," as they call it, of a fire in their bed-room. They think it enervating, &c., and imagine they "harden" themselves by chilling themselves, just as some ladies sit bolt upright, and weary their backs, that they may not be thought indolent. If people are cold, nature bids them get warm, and keep so; if they are wearied, nature bids them rest. There is a great difference between the indulgence of natural wants and of artificial appetites. Nature never craves for tobacco or snuff, but abhors them; she often craves for warmth, rest, comfort. Never, therefore, sanction the "hardening" system, whether applied to children, delicate ladies, or the aged. When the chilly blasts of autumn come on with the revolution of the year, warn against their effects. Of course, if cold sponging be practised habitually already, let it be continued even throughout the winter, provided there is a reaction in the capillary system; but I suspect there are many false facts stated respecting the value of cold sponging as a prophylaxis against cold. Some do very well with it for a while, and then sneeze, cough, or have sore throat, as before; and some unconsciously exaggerate the results. If a person boasts of the practice of cold sponging as something heroically valorous, you may fairly suspect a little imaginative addition to the real results of the practice. Such an one may chance to be a *Parole* of cold sponging. Whatever people may say, never believe that plunging a child into a tub of ice-cold water will harden, unless it be (as dead animals are hardened for the market in Russia) by freezing it.

Our curative plan has hitherto been very simple; first we prescribed small doses of calomel every three hours (and these small doses must be taken with the greatest regularity), combined with antimomial powder. In addition, the common febrifuge mixture of the dispensary pharmacopœia was ordered, and, if the bowels had been previously constipated, an aperient draught. These remedies, with perfect quietude in bed, and slop diet, answer very well in the majority of cases; and probably the antiphlogistic regimen alone, carefully carried out, would have answered just as well, for that regimen, so carried out, is an influential thing. Your great object is to stay the movements of the animal machine as much

as possible; you just let your patient vegetate in bed, and specially take care that the lungs are not irritated by cold air. Sometimes, however, the pain and congestion are so great, that you must take blood; and for several of our patients leeches to the thorax have been thought advisable, and, in one or two, we have added counter-irritation by means of a blister. After a while, however, the congestion becomes chronic, the inflammation attains the stage of muco-serous or muco-purulent effusion, and then, although leeches may do no harm, you must be careful how you practise a general bleeding. The bronchial mucous membrane is just like all others, and may have its gleety, glairy, chronic discharges, which stimulants will relieve. In this stage, the whole class of expectorants, or balsamic remedies as they are called, come in useful. The various turpentine gums, and modifications of them, are of this class. Tar, Chian turpentine, copaiba, balsam of sulphur, storax, and even the spiritus terebinthinæ itself, are useful remedies in this chronic form. If it be combined with tubercular deposit, you may still prescribe them, although at first tentatively, and combine local blood-letting or counter-irritation. I have had one or two cases which have yielded to spirits of turpentine when nothing else seemed to do good.

There is a form of bronchitis, or rather bronchorrhœa, which attacks persons of a phlegmatic habit, or with chronic pulmonary disease, in which the hydrochlorate of ammonia—the old sal ammoniac—is an excellent remedy. I often prescribe it, and can speak of its value from extensive experience. It is useful in those cases in which there is profuse creamy expectoration, a flaccidity of fibre, a sloughy paleness of the face, and a creamy fur on the tongue. You may give from six to ten grains every few hours, combined with from twenty to forty minims of oxymel of squills, and the compound tincture of camphor. The base of the mixture may be a decoction of senega, or plain water.

Bronchitis fœtida is a curious form of this bronchorrhœa: it is characterised by a most copious expectoration of a fœtid, purulent-looking mucus, smelling sometimes like fæces, and sometimes like a decayed apple. I have seen three or four cases. The most remarkable was one in which it was complicated with intermittent fever, and the subject of it was the wife of a cavalry soldier from the barracks, which are situate, as you know, on swampy low ground. She was a patient in the hospital at the time I was the resident officer, and I took notes of the case, it was so remarkable; but it was only after a review of my notes that I detected its intermittent character. You will find it detailed in a late volume of the LONDON MEDICAL GAZETTE. Of

course quinine would be the first remedy in such a case; then you might try it combined with sulphate of zinc, then combined with some terebinthinate gum, supposing the other to fail.

Bronchitis may be arthritic or gouty; that is to say, may arise in a person of gouty cachexia, and be only another form of gout. We have had no case yet, but there is one visited at home somewhat allied, and I have prescribed blue pill and henbane, with small doses of acetous extract of colchicum. Occasionally, this gouty bronchitis supervenes on a chronic cardiac or pulmonary affection, and then you have a dangerous complication. You go to visit your patient, and, instead of his usual rosy or rubicund complexion, his cheeks are livid, his eyes starting, his chest heaving, his breathing rattling, his pulse hurrying very fast, and drops of perspiration bedewing his forehead. You are on the horns of a dilemma: if you bleed you fear the cardiac affection—you fear the already enfeebled or disordered heart may be still more enfeebled. Bleed, however, you must, but ~~not~~ carefully, with your finger on the radial artery, noting every stroke. If the pulse become fuller and slower, and the breathing at the same time easier, you are doing well for your patient; you get him a reprieve, and an opportunity to be treated by other means.

Sometimes there is little or no expectoration during or after an attack of bronchitis; but there is a most tearing cough. In such a case an opiate is indicated, and may be safely given; but you must be very careful how you prescribe opiates in bronchitis. If the cough is excited by the mucus contained in the bronchial tubes, and not by an irritable condition of the nerves or their lining membrane, it is in nature expelling an injurious thing. The mucus ~~must~~ be got rid of somehow, and I do not know how it can be got out of the tubes except by coughing. If you give an opiate it is true that you give the natural effort a quietus, but, at the same time, you paralyse the sensory nerves. You paralyse the muscular fibres; and at last, when the mucus has accumulated to such an extent that your patient must cough or die, he cannot cough! Old people are often complaining of their violent morning cough—as soon as they awake they begin; but it is because mucus has accumulated in the bronchi during the night, and is only perceived by their mucous membrane when sleep ceases—the sentinels have been dormant. But the mucus ~~must~~ be expelled, and, therefore, the patient ~~must~~ cough. The plan in these cases is to reduce the bronchorrhœa; first, by taking care that the membrane is not irritated by cold air, and then by suitable remedies. In the meanwhile preach patience to your patient, and tell him

his cough is his safeguard so long as the lungs are clogged with phlegm. Sometimes mothers go to a druggist for "something for a cough" that their children had: they get oxymel of squills and syrup of poppies, give a good dose to quiet the babe at night, and in the morning send for the doctor—its cough is stopped, it is "closed in the chest," its lips become livid, and you have to repair the mischief done by the opiate.

GONORRHOEA IN CATTLE.

MR. J. H. SHENTON has published, in the *Veterinary Record*, some interesting remarks upon this subject, of which we shall give an abstract, as we believe that observations of this kind may be rendered of great value in illustrating pathology in the human subject. Gonorrhoea in horned cattle is commonly known in this country by the name of bull-burn or clap; it sometimes prevails to a great extent, and is very troublesome to get rid of. The author has, of late, had a great number of cases of it in his practice. The disease affects the mucous surfaces of the parts of generation in either male or female. Mr. Shenton has frequently met with it in two forms which, for the sake of distinction, and reasons hereafter to be given, he designates simple gonorrhoea, and virulent gonorrhoea. Simple gonorrhoea makes its appearance in the female (more frequently in the young than in the old) about four or five days after copulation, and is known by the following symptoms:—unhealthy feel of the skin, arched back, diminution of the secretion of milk, shaking and whisking the tail about after voiding urine, redness and fulness of the parts of generation, and a puriform discharge from the vagina. In the male, the author has known this form of the disease make its appearance in three days after copulation. It is known, in the male, by the following symptoms:—swelling and redness of the prepuce, or sheath; a continual discharge of matter from the mucous surface of the generative organs, with evident indications of great pain after voiding urine. The author attributes this form of the disease to the hot, inflamed, and irritated state of the system of either the male or the female (but more frequently the female), at the time of copulation. He has known innumerable cases of this kind of gonorrhoea make their appearance in the cow after copulation, and the bull by which she had been served never shewing the least symptom of the disease; but if a bull has had connexion with a cow that is labouring under this the first form of gonorrhoea, he will be immediately affected with the more acute form of the disease, which the author has before designated virulent gonorrhoea, because it is the result of connexion with a diseased cow. The first form of the disease

may make its appearance in either bull or cow after copulation, when both animals were in a healthy state previous to the act of copulation; consequently, when either a healthy male or female comes in contact with a diseased male or female in the act of copulation, the venereal poison is communicated from the infected animal to the healthy one, which poison, if applied to the mucous surfaces, produces a sore which is similar in every respect to the true venereal chancre of the human subject. The symptoms of this form of the disease are similar at the commencement to simple gonorrhoea, or the first form; but, as the disease progresses, they become aggravated and are more intense. Inflammation first shows itself in the organs of generation, and, if the mucous surfaces be now minutely examined, they will be found to be covered with small red pimples, which in a few days become larger, and, bursting suddenly, form deep-seated ulcers, which, if on the penis of the male, often prove a very serious affair; for if not stopped, two or three of these ulcers will run into one, and in some cases the penis will be partially destroyed by them. When the disease has arrived at this stage, the animal voids his urine with great pain, in small quantities and by jerks, like water from a syringe: the prepuce becomes ulcerated to an alarming degree, the testicles are swollen, and on compressing them the beast gives indications of extreme suffering. The venereal poison now begins to be taken up into the absorbent glands, producing a bubo, and from this being conveyed into the circulation fatal results most commonly follow; but by a timely application of medical means these may be prevented. The treatment adopted by the author in the milder form of the disease mainly consists in the use of saline purgatives, astringent lotions, and occasionally, blood-letting. In the more virulent the plan is the same, but requires to be more vigorously carried out. Mr. Shenton adds, that the practitioner should be very careful when dressing the ulcers, for the matter from them will affect the human skin as well as that of the brute.

[The characters of these forms of disease would be well worth a careful investigation. There does not appear to be the slightest evidence for the above account, that the ulcers described as closely resembling chancres are otherwise than local affections subject to local treatment; and, in that case, producing no constitutional mischief. It would, however, be well to ascertain, by inoculation and other means, whether this disease is ever constitutional. If it be simply a local disease (a point which could readily be decided) it will only be of interest to the veterinarian; but should it prove to be constitutional, its consideration may prove of very great importance to the pathologist.—ED. GAZ.]

Original Communications.

OPERATION PERFORMED AFTER
INHALATION OF THE VAPOUR
OF SULPHURIC ETHER.

BY WILLIAM LAWRENCE, Esq. F.R.S.

I HAD occasion last week to perform one of the most painful surgical operations; and I gladly embraced the opportunity of submitting to what will, I think, be deemed a complete test, the recently introduced practice of inhaling the vapour of sulphuric ether. The great interest excited throughout the medical profession, and in the public generally, on a matter of which the importance can hardly be overrated in reference to operative surgery, induces me to communicate to you the particulars without delay; the result having been perfectly satisfactory, not only for the immediate purpose of preventing pain, but by proving, as far as a single instance can go, the safety of the proceeding, both in its direct operation, and in reference to the subsequent progress of the case.

A gentleman, 52 years of age, residing in the country, of good constitution, excitable temperament, and active habits, who at one time had lived rather freely, indulging a little in the use of spirits, but not intemperate, lost the sight of his right eye. After he had been blind for a year and a half, a swelling came in the orbit, and had gradually increased for about a year, when I saw him. I found it to be a case of melanosis, in which the eyeball, together with a morbid growth which had pushed through the tunics, constituted a large mass, not only filling up the bony cavity, but projecting in front, distending the lids, and separating them to the width of an inch. It was covered by the conjunctiva, thinned at one point so that the colour of the melanotic structure was clearly distinguishable, but principally thickened and red as in chemosis.

The inevitably fatal termination of such an affection induced the patient to submit to the operation as the only alternative.

During the development and progress of the complaint there had been

much treatment, including repeated loss of blood by cupping and leeches, and mercurialisation. The spirits were depressed, as might be expected under such circumstances; but this symptom was relieved by mild opiates, which agreed well, and procured rest. The usual habits of diet, with a moderate quantity of light wine at dinner, were continued to the time of operation. The mind was tranquillised by the belief that the new process would lessen or prevent pain, and the patient slept well on the night before the operation. This was performed on the 15th instant, in the presence of Dr. Waterfield, a friend of the patient, and of Mr. Holmes Coote, who gave me his assistance; the inhalation being managed by Mr. Hooper, of Pall Mall East.

The entrance of the vapour into the chest caused slight irritation about the throat. The arms and legs became powerfully contracted, so as to require a strong effort to control them; they were soon completely relaxed, and the patient sunk back into the reclining posture completely unconscious. There was some congestion of the face and head, the colour being somewhat livid, though, as I proceeded immediately to the operation, I did not make a minute observation. It was necessary to separate the lids at their commissure, and to turn them back freely, especially the inferior, which was tightly stretched upon the swelling. During this process, and the further dissection of the diseased mass from the orbit, the patient lay like a body on a dissecting table, without the slightest manifestation of suffering or even consciousness, without a movement of any part. In about a minute after the conclusion of the operation, partial recovery of sense was observed: the patient was raised into the sitting position, and opened his left eye. Recognising Dr. Waterfield, who had been sitting with him for an hour before the operation, he said, "Ah! how do you do? I am happy to have you here." He then expressed a fear that he had not had enough of the ether to produce the desired effect. When told that the operation had been performed, he said, "Operation! operation! What operation?" and seemed quite puzzled. Nothing further was said; but he was placed in a reclining position, and re-

remained quiet. Persons engaged in a scene of this kind cannot estimate time very accurately. A friend, in an adjoining apartment, stated that from the time of the patient's entering the chamber for the operation till I came out to tell him that it was over (about two minutes after the conclusion) was eight minutes. The inhalation and the operation together may therefore have occupied about six minutes. The pulse was steady and quiet at the beginning, and, according to the report of Dr. Waterfield, who carefully observed it, continued so throughout: it was precisely of this character at the conclusion. After the conclusion of the operation, and before going to bed, the patient took two small glasses of Marcalà wine, and a liqueur glass of brandy and water, by his own desire, and not from any failure of the circulation. There was free but not profuse bleeding, which continued so long that the application of ice was resorted to, under which it soon stopped.

The patient continued nearly free from pain throughout the day, and passed a tolerably comfortable night without an opiate. The progress has since been favourable, the only drawback having been erythematous affection of the lids and temple, with sense of distension and pain, causing some restlessness at night. These inconveniences are now nearly at an end, and the patient sat up, in a room adjoining his bedchamber, about four hours yesterday evening, nearly free from pain.

To inquiries respecting what he had felt, the patient said that it was like drowning—a sense of water rushing and overwhelming him: then came a snap, and he felt nothing further. It was clear at the time that he did not know that the operation had been performed, and this subsequent statement shows that he must have been entirely unconscious. On the last occasion of my performing a similar operation, the sufferings of the patient were intense: although not deficient in firmness, he writhed in agony, not being able to control himself, and thus considerably protracting the operation. Severe pain continued for many hours, and lasted in a less degree, with restlessness at night, for three or four days.

Considering the nature of the ether vapour, and the mode in which it in-

fluences the sentient and moving power we may infer that its influence on the sensorium is analogous to that of intoxicating liquors introduced into the stomach. Many years ago a middle aged woman was brought into St. Bartholomew's, drunk, with a compound fracture and other serious injury of the leg requiring amputation. Having reflected on the circumstances, I could see no reason why the state of intoxication should prevent the performance of an operation absolutely necessary, and I accordingly removed the limb at once above the knee in the ward. The gentlemen present and myself were perfectly satisfied that the patient was unconscious of the proceeding, though being subsequently jeered on the subject by some of her fellow patients, she contended that she knew what was done at the time, but did not feel pain.

Whitehall Place,
January 20, 1847.

LIGATURE OF THE POSTERIOR TIBIAL ARTERY FOR A WOUND.

BY JOHN CHARLES HALL, M.D. M.R.C.S.
Author of "Remarks on some of the more
Important Diseases, Medical and
Surgical," &c. &c.

Two cases of wound of this important artery have been under my own immediate care; the one recorded in this journal, Feb. 6th, 1846, and which has been thought worthy the especial notice of one of the most celebrated surgeons in Europe;* and the other the one I am about briefly to relate the particulars of, and which I had the pleasure of dressing a week after the operation with my friend Mr. Raynes, surgeon, of Gringley on the Hill, and who had, in common with myself, an opportunity of seeing the correctness of those principles so clearly and forcibly set forth by Mr. Guthrie in his very important work on Wounds of Arteries. This experienced surgeon will indeed have the satisfaction of knowing he has not lived in vain, and that from those fields of misery and death he has so often traversed during the Peninsular war, he has created, "under the

* Lectures on some of the more Important Points of Surgery, by G. J. Guthrie, F.R.S. Pp. 26. London, 1846.

ribs of death," a principle of life—of correct practice with regard to the treatment of wounds of arteries, which, extending itself to the end of time, will be the means of saving many of his fellow creatures from death.

With regard to his plan of securing the posterior tibial artery in the upper part of its course by an incision through the deep muscles of the calf, I can only say, that having once tried it, and recorded the successful result in this journal, I am as perfectly satisfied of its advantages over the other operation, the mode of performing which, by bending the leg, turning up the edge of the gastrocnemius, placing a director under the soleus, and scraping it away from the bone, &c. &c., is detailed and recommended in some works on surgery, but which appears to me to be an operation so difficult, so dangerous—I had nearly said so almost impracticable—on the living body, although not attended with much difficulty on the dead, that I am at a loss to conceive why it should not at once be abandoned, and the student taught to practise only the far more easy means of securing the artery by a simple division of the muscles of the leg. Added to this, it is often difficult, if not impossible, to decide, when the instrument by which the wound has been made has passed from side to side, whether the posterior tibial or the peroneal artery has been wounded—a matter of perfect indifference in the operation performed by Mr. Guthrie; not so, however, with the one to which we have above alluded.

John Parkinson, æt. 36, was in the month of December last chopping some wood previously to sawing it, for Earl Spenser. The hatchet slipped, and inflicted a very severe wound, about three inches in length, at the lower and inner side of the right leg, a little above the ankle.

The poor fellow had lost a considerable quantity of blood before I saw him; and on placing him in a chair in a warm room, in order to examine the injury, on removing a bandage that was tightly tied round the leg, it again bled freely. The instrument had passed from above sideways, and the artery had been wounded somewhat to the outside of the line of incision. Enlarging the wound with a scalpel, on sponging away the blood I found the

posterior tibial artery had been nearly divided about one inch above its division into the internal and external plantar arteries. The posterior tibial nerve was also a good deal injured. My brother kindly held the edges of the wound open for me, and after some little difficulty (for the operation was performed by candle-light) a double ligature was carried under the artery, which was tied above and below the wound which had been made in it, and the vessel divided between them. The wound in the integuments was drawn together by two or three points of suture, the limb supported by a bandage, and the man sent to bed. No febrile disturbance followed the operation. The lower ligature came away on the tenth day after the injury; the upper one on the fourteenth. The wound is now cicatrized, and the poor fellow will soon be enabled to follow his usual employment as a sawyer.

Grove Street, East Retford,
January, 1847.

ON THE YELLOW CORPUSCLES OF THE SPLEEN.

By C. HANDFIELD JONES, M.B. Cantab.

Lecturer on Physiology at the Medical
School of St. George's Hospital.

ONE remarkable peculiarity in the structure of the spleen is, that it presents a highly developed condition of the venous part of its sanguiferous system compared with the arterial; this may have probably suggested, and certainly confirms, the idea that it serves as a reservoir for blood when that fluid is in excess. Were this, however, the whole of the structure, it would not be justly classed among the gland-like organs; it would be deficient in the essential element, without which no gland can exist as such; this, however, is not the case. The *splenic mud*, as it used to be termed, consists of myriads of nuclei or cytoblasts, having nearly the same characters as in the other ductless and in the true glands. Now of these nuclei, it has been correctly observed, that they differ from those of most other glands, in that they seldom proceed to the development of a perfect cell; perhaps in the absolutely normal condition they never do; but I have not unfrequently observed, in

specimens from the human subject, when the organ was congested and enlarged, that this has occurred, and the appearance then presented was exactly that of an epithelial cell from the kidney or stomach.

These results of minute investigation tend to shew that the spleen is more than a mere mechanical reservoir; that it resembles the other glands in producing (as Müller believes) some change in the blood circulating through it. What the nature of this change is, which may be eliminated from, or added after elaboration effected, to the tardy current of the blood which traverses it, is yet unknown, and I do not attempt to shew: I merely wish to record some simple observations which seem to me to bring additional evidence in favour of the gland-like character of the spleen.

In the spleens of various animals there may often be seen a number of minute corpuscles of a yellow colour, varying from a dark to a pale hue; they occur sometimes singly, but mostly in groups, which I have sometimes thought were aggregated, especially along the larger blood canals. These groups are made up of corpuscles of very various size; they do not appear to have any especial connection with the surrounding substance, which occasionally, however, has a decided yellow tinge.

In the animal series I have found these corpuscles most highly developed in fishes. A thin section of the spleen of a herring had even to the naked eye a decided yellow tinge; and with a power of 200 linear, the whole parenchyma was found to contain small vesicles of a yellow colour thickly scattered throughout it. In the common flounder they are often perfectly manifest to the naked eye as dark spots, which, under the microscope, are found to be made up of small dark solid corpuscles, measuring about 1-1500th of an inch in diameter, with smaller distinctly yellow vesicles interspersed among them. In a newly caught frog, the spleen presented corpuscles very similar to those observed in fish; they bore a close resemblance to other corpuscles which were abundantly scattered throughout the liver of the same creature; and in both a yellow tinge was sufficiently distinct. In the spleen of a frog which had been kept some

time in confinement, the corpuscles were much darker, and seemed as if shrivelled. In two pigeons which I examined, the spleen presented none of the yellow corpuscles. Once in the common fowl they were detected, but very few and of small size. Among mammalia I have seen them very distinctly in the rat, the dog, the guinea-pig, the bullock, and sheep; (in the cat I was unable to discover them). In all these they correspond to the general description above given, but are quite inconstant in their existence; nor have I been able to determine with any certainty what are the particular circumstances which favour their production at some periods rather than at others. In the human subject they are rarely to be found. I have, however, observed them distinctly in six instances, in one of which they were very numerous and large. In most of the cases in which they were found, there had been considerable interruption to the respiratory process. The spleen was generally much enlarged, soft, and of a rather pale colour, quite an opposite condition to that often observed in cases of Bright's disease, where the organ is found shrunk and contracted: in such spleens I have never noticed any of the yellow corpuscles.

Regarding the nature of these corpuscles, their distinct yellow colour might naturally suggest the idea that they consisted of biliary matter; they resemble much the particles of bile which are frequently seen in the cells of the liver when the secretion has been long retained: especially in the frog, as I have above stated, there exists a very close resemblance between the yellow corpuscles of the spleen and dark yellow masses occurring in the liver, and which seem to be produced in the cells of that organ. This, however, cannot be deemed sufficient evidence to prove their identity; and, indeed, the idea is almost negatived by the more decisive evidence of chemistry, since the yellow corpuscles exhibit none of the usual reactions with the tests for bile.

To one fact more in the history of these corpuscles I would particularly advert, as it seems of some importance, viz. their being often totally absent, or very slightly developed. This is chiefly observable in the mammalia; but even in fish, where they are so

strongly marked, I have, on at least one occasion, sought almost in vain for them. Now this must, I think, be regarded as indicating that they are normally, to a greater or less extent, removed by absorption, entering probably into the current of the venous blood. They seem strictly comparable to the dark masses mentioned as occurring in the liver; like them they are situate remote from any free surface on which they could be eliminated, and, like them, they seem chiefly to be produced under circumstances causing congestion, and thus diminishing absorption: compare, for instance, their condition in the bird of energetic circulating and respiratory functions, and in the reptile or fish, where the half-decarbonized blood slowly traverses the textures. It is interesting here to remark, that this circumstance of an elaborated product remaining stored up for a time in the interior of these two organs, the liver and spleen, appears to point out an affinity by no means distant between them, and thus to draw closer the resemblance between the two orders of glands; thus the liver, which we may rank as the lowest of the true glands, slow, and often impeded in its action, is provided on the *surface* only of its subdivisions (lobules) with an efferent apparatus, so that the greater part of the secreting substance is in much the same condition as the homologous part of a ductless gland.

Lastly, I would not omit to state that, although I regard the yellow corpuscles of the spleen, when present, as a product of secretory action, they have not the same relation to the nuclei of the organ as other secreted products have: they are not aggregated round the nuclei, nor do they seem to be formed from them in any way*. Of this I can give no account; but it is worthy of remark, with a view to forming any theory of secretion, since, on the supposition that these corpuscles are truly products of secretory action, it would be one of those exceptional instances from the study of which so much may often be gained respecting the essential nature of the subject under inquiry.

* They seem to originate as minute transparent yellow vesicles, some not exceeding $\frac{1}{1000}$ inch in diameter.

ON THE PATHOLOGICAL CHARACTERS OF THE BLOOD,

As it exists in the State of the Sanguiferous System usually denominated Plethora.

By WILLIAM CAMPS, M.D. Edinb.
Physician to the Farringdon General Dispensary.

[Continued from last volume, p. 1093.]

It was my intention to include the substance of the present communication in my last paper on the Pathological Characters of the Blood, which appeared in the LONDON MEDICAL GAZETTE, Dec. 26, 1846, thinking that the points of difference, or even of actual contrast, between two opposite states of the sanguiferous system, namely, Anæmia and Plethora, would be more apparent, and, therefore, rendered more striking to the reader, if presented at one view in the same paper; but I was induced to abandon this intention, finding that sufficient and ample justice could not be done to both states or conditions, without extending the paper beyond the limits desirable for the columns of a weekly journal. By the term Plethora is generally understood, an increase in the *quantity* of the blood in the blood-vessels, together with an excess of its organic proximate principles, and especially in the proportion of fibrine above the normal standard. The older writers on medicine speak of several varieties of Plethora: thus we shall find in their works descriptions of Plethora ad molem, Plethora ad Spaticum, Plethora ad vires, Plethora ad vasa. But, without entering upon a minute criticism of the correctness of all these presumed varieties, the above definition will suffice for the present occasion, and will furnish us with a correct idea of what is usually signified by the word Plethora.

It is stated that, in plethora, the *quantity* of blood is increased. But what proof is furnished to us that this is the case? Even so modern an authority as M. Piorry—an authority of our own time—has defined Plethora to be that condition of the circulatory system, in which the *quantity* or *volume* of the blood contained in the heart and blood-vessels is greater than is consistent with a state of health. That this is the general opinion among the

French, would appear from the common employment of the phrase, "*le trop de sang*," when speaking of Plethora. That a local Plethora or congestion may exist, from the presence of an undue quantity or fulness of blood, in any part or organ of the body, we can readily admit; but it appears much more probable to me, that Plethora, or a plethoric state of the system, is rather an alteration in the *quality* than in the *quantity* of the blood. That the blood in Plethora is *rich* in one or more of its principal elements, is satisfactorily proved by chemical analysis, as will be shown in the course of the present communication; but that it is *abundant*, meaning by this, that it is increased in *volume* or *quantity* beyond that in health, ought, I think, to be received only as an assumption "not proven." If this view of the subject should be found to be the correct one, the word Plethora, from *πληθω* to fill, must be regarded as a misnomer, or misapplied term; and its frequent and continued use has contributed to perpetuate an erroneous, false idea—an idea not in accordance with things as they are.

It is true that we should expect that the mass of blood in the system, in Plethora, should be increased in weight, seeing that the proportion of the red corpuscles of the blood is increased above its normal standard, as will be seen on looking over the chemical analysis of this fluid recorded below. Supposing the volume of the blood to remain, in Plethora, the same as in health, and finding, by chemical analysis, that the globular element of the blood is increased at the expense of the water, or of some other lighter constituent of this fluid, an increase of its density will be at once apparent, so that we have increase of *weight*, but not necessarily increase of *volume* or *quantity*.

Although the valuable researches of M. Andral, on the composition of the blood in this state, have most clearly demonstrated a very considerable increase in the proportion of the red corpuscles, yet the same researches have by no means confirmed the opinion, that in Plethora this fluid is richer in the proportion of the fibrine it contains. The contrary is found to be the fact by this observer. In thirty-one bleedings per-

formed on subjects in whom this state was well marked, M. Andral found that the proportion of fibrine was rather below than above the normal physiological standard; the mean proportion of this proximate principle not being higher than is represented by the figures 2·7, which, according to all observers, is scarcely what is quoted as its normal proportion. From these observations M. Andral is induced to conclude, that the symptoms of Plethora do not depend on any increase in the proportion of the fibrine of the blood, and consequently, that plethoric individuals are not more liable than others, to become affected with disorders of an inflammatory character. It is chiefly in the proportion of the red corpuscles of the blood that the distinctive characters of this fluid are to be remarked, and which constitute the chief points of difference or of contrast between the blood in Anæmia and in Plethora. In the thirty-one cases already mentioned, in which M. Andral analysed the blood of individuals affected with Plethora, he found the minimum proportion of the red corpuscles to be represented by the figures 131, the maximum proportion by 154, the mean proportion by 141; whereas, in the physiological condition of the blood, the minimum proportion of the red corpuscles is represented by the figures 110, the maximum proportion by 140, the mean proportion by 127; and in my last paper on the pathological characters of the blood in Anæmia it was stated, that in sixteen cases of incipient Anæmia the mean proportion of the red corpuscles was represented by the figures 109, and in twenty-four cases of confirmed Anæmia it was represented by the figures 65;—thus shewing that the blood in Plethora differs from healthy blood, and from this fluid in Anæmia, in the increased proportion of the red corpuscles, and in the diminished proportion of the water which it contains.

The solid organic matters of the serum, including the albumen, present no appreciable alterations in their proportions in this state of the blood.

When we consider the very important part that the red corpuscles of the blood perform in the animal organism, and find that, in Plethora, they exist in greater abundance than usual,

we can reconcile this fact, with the phenomena observed in that state of the sanguiferous system, when within certain and moderate limits, in which there is, so to speak, an overplus of life or vitality, the chief functions of the organism, as the respiration, the digestion, the circulation, &c. being performed with more than ordinary vigour and activity.

In the late Dr. F. Simon's work on Animal Chemistry, which has been ably translated from the original text by Dr. G. Day, and published by the Sydenham Society, I do not find any notice by that distinguished organic chemist, of the chemical analysis of the blood in Plethora, nor any account of its physical properties in this state or condition. M. Andral describes them by saying, nearly in the following terms, that, before it coagulates, it has a very high colour, as might be expected from the large proportion of the red corpuscles. After coagulation, the serum is more or less coloured, the clot is large, voluminous, of a moderate degree of firmness, retaining within it much of the serum. We seldom or never observe a buffy coat upon the surface of the crassamentum or clot, or, if there be any, it is only a thin transparent pellicle.

The large size of the crassamentum, or clot, depends evidently upon the great proportion of the red corpuscles, and its softness, as well as the almost constant absence of the buffy coat, depends on the small proportion of the fibrine relatively to that of the red corpuscles. Moderate or limited Plethora can scarcely be regarded as a disease, for unless it becomes excessive, the functions are well, and more actively performed—the digestion goes on more rapidly, the respiration is more energetic, and the circulation is more full and rapid, the heart beating more strongly. All this is in accordance with the received opinion, that the strength of the constitution is the state of the economy which most tends to raise the red corpuscles of the blood towards their maximum physiological proportion; whereas the weakness of the constitution is the condition which tends to reduce this element of the blood to its minimum proportion.

Assuming as correct the modern views of the metamorphosis of the blood in the nutrition of the organism, it would

not be difficult to point out, in what manner, whilst the ordinary functions connected with life are performed with great energy and activity, the proportion of the red corpuscles of the blood is maintained at, or even in some cases above, its normal standard, as observed in Plethora; whilst the proportion of the other elements of this fluid, and especially the fibrine, is not found to be increased. But it would be out of place in this present communication to pursue this train of inquiry, as it would be also to speak of the treatment, whether prophylactic, or remedial, or curative, indicated in cases of plethora.

My next paper on the Characters of the Blood, will have reference to observations made on the diagnostic value of the *Bruit de souffle*, or *Bruit de diable*, in connection with the progressive increase and diminution of the globular element of the blood in Chlorosis, and during Utero-gestation, but chiefly in cases of Anæmia, whether spontaneous, incipient, or confirmed.

50, Green Street, Grosvenor Square,
January 6, 1847.

CONGENITAL BRONCHOCELE.

DR. SCHNEIDER mentions having twice met with congenital bronchocele in children otherwise healthy. In one instance the tumor was as large as a goose's egg, in the other its size was somewhat smaller. Inunction with a weak iodine ointment caused the swellings to disappear in less than three weeks. He adds references to similar cases, mentioned by other writers, and extracts from the "Transactions of the Academy of Sciences at Bologna," the history of a still-born foetus, in which an enormous tumor occupied the whole neck, extending downwards towards the sternum, and likewise reaching upwards, especially on the left side, so as to greatly disfigure the face. The tumor was found by M. Mondini, who observed the case, to be formed by the large thyroid gland, part of which presented a cellular structure, like that of ordinary bronchocele, while the lower part of the growth more nearly resembled fungus hæmatodes in its characters.—*Dr. West's Report on Midwifery.*

DR. LASSERRE has related the history of two still-born children, in one of whom meningeal apoplexy existed; in the other, which was expelled at five and a half months, there was copious hæmorrhage into the ventricles. This last foetus is said to have been dead nearly a fortnight.—*Ibid.*

MEDICAL GAZETTE.

FRIDAY, JAN. 22, 1847.

THE commencement of a new session of Parliament has rendered it probable that the question of Medical Reform will again become a prominent subject of discussion. The Royal College of Surgeons and the Apothecaries' Society are adopting the "*expectant*" system; and, so far as we can judge from present signs, propose remaining quiet spectators of the struggle, unless an attack upon their interests, should hereafter suddenly call them forth. We shall then have a renewal of the Memorials, Statements, and Resolutions of the last session,—a short logomachy, and lastly, a further postponement of medical reform for another year, another Parliament, and probably another set of ministers!

The Bill which is about to be introduced into the House of Commons by Mr. Wakley, which is designated a Medical Registration Bill, is in effect a medical reform bill of the most comprehensive kind. If passed in its present state, it will effect the most sweeping changes in the profession: its clauses not only refer to the *registration* of practitioners, but equally affect the powers of the licensing bodies, the present system of medical education, and the discipline and privileges of the whole profession. Of this new measure it will be time enough to speak when we have the Bill regularly before us, after it has been printed by order of the House of Commons. From a general examination of its clauses, many of which are undoubtedly intended to improve the state of the profession, we would only at present suggest that its supporters should bear in mind the old maxim, *ne quid nimis*.

The Royal College of Physicians has this year taken the initiative in reform among corporate bodies, and have recently published a Memorial announcing their desire to be allowed to effect certain changes in their charter, which it is expected will place the College more in unison with the present improved state of medicine, and diminish in some degree that bitterness of feeling among its members, arising from the partial distribution of exclusive privileges. We have elsewhere printed this Memorial at length;* it will be found well worthy of perusal by all those who take an interest in the present state and prospects of the College. From this document it will be seen, that there is an *imperium in imperio* which the President and Fellows of the College are desirous of abolishing. The Act of Parliament which confirmed the charter granted by Henry VIII., while it gave to the College the power of examining and licensing all persons who practised as physicians in London and within seven miles around (*intra-urbem* licentiates), conferred the privilege of examining and licensing those who practised beyond seven miles from London (*extra-urbem* licentiates) upon a small body composed of eight of its members, termed Elects. This Board exercises its powers quite independently of the College, and while it is thus rendered irresponsible, all vacancies in it are filled up on the principle of self-election. It is easy to imagine that some inconveniences should have arisen from this divided jurisdiction, especially as of late years the number of extra-licentiates has greatly increased. The licensing bodies throughout the country are already sufficiently numerous without having this subdivision in a single College, whereby two

* See page 170.

different examining Boards are empowered to grant two kinds of licenses! It can therefore create no surprise that jealousies, dissensions and disputes, should exist among the extra- and intra-urbem licentiates, and that invidious comparisons should be instituted between the examinations of the two Boards.

Another change which the College proposes to introduce refers to the election of president. Under the old Act of Parliament, already referred to, the elects exercise the power of annually choosing one of themselves to be the president of the College. Thus the members of the College have no voice or control in the election to this important office: they cannot even indirectly exercise that shadow of power over it which has been recently conferred on the Fellows of the Royal College of Surgeons by charter. There can be no doubt that this part of the constitution of the College is susceptible of improvement, for, in the terms of the memorial, the choice of the president ought not to be deputed to so small a body, which is neither elected by the Fellows at large, nor under their control. The main object of this memorial, therefore, is to obtain from Government a short Act of Parliament to enable the College to accept a charter modifying its former charter, and transferring the functions of the elects to the general corporation.

But the Royal College of Physicians is, we are glad to perceive, prepared to carry reform beyond these technical changes. For a long period the fellowship was almost exclusively conferred by their bye-laws upon those who had been educated at the English universities. A graduate of Oxford and Cambridge, although deficient in the really practical knowledge of his profession, was admitted, almost as a matter of course, into the order of

Fellows, while one who had worked for the greater part of his life in a hospital or infirmary, or at the bedside of the sick—i. e. the really practical, but perhaps unclassical, physician—was excluded from the honour, because his testimonials did not happen to bear the University stamp! Although these unjust, exclusive, and, as far as a real College of *physicians* is concerned, inconsistent bye-laws, have been rescinded, and the Fellows have of late been selected from among the licentiates, without distinction as to the place of their education, and, it is alleged, solely from their character and attainments, yet we think that university men are still occasionally admitted more out of regard to the university degree which they possess, than to their medical knowledge and experience. But a system of *selection* is in all cases invidious: it never can be otherwise, and the evil and injurious effects of it, were perhaps in no instance more strikingly shown than in the very partial mode in which the Fellows of the Royal College of Surgeons were selected under the new charter. It is impossible to avoid the introduction of nepotism, or some other equally injurious principle, into such a system; and the uniform result is to create dissatisfaction except among those who, in the hour of need, did not lack friends to put their names prominently forward.

Henceforth the College of Physicians proposes to adopt an equitable principle regarding the admission of licentiates to the fellowship. This is, as we learn from the memorial, by an examination high in character, comprehensive in extent, and open to all licentiates who may submit themselves voluntarily to it. In reference to this suggested change, we do not find it expressly stated that the candidate should have attained a certain standing in the profession, say ten or fifteen years, before

presenting himself to be examined for the fellowship. Some rule of this kind should, however, be adopted in order to make the honour more select; and it should be entirely free from the old university bias. Classics are very useful and ornamental in their way, but they will not supply the want of a sound knowledge of anatomy, medicine, or materia medica—they will not save a life, nor render a man a physician at a time when his services are most needed. Hence we would say, as a knowledge of remedies is more required at the bedside of a dying man than the graceful recitation of a Greek ode,—give not the least advantage to the university graduate who presents himself as a candidate for the fellowship. Let him, like the hard-worker, who has not breathed the air of a university, produce evidence that he has practised his profession for a certain period, and that he is equally able to go through an examination high in character and comprehensive in extent.

This memorial calls for a few additional observations, which, however, we must reserve for the present.

Reviews.

Clinical Facts and Reflections; also, Remarks on the Impunity of Murder in some Cases of presumed Insanity.
By THOMAS MAYO, M.D. F.R.S.
Physician to the Infirmary of St. Marylebone. 8vo. pp. 217. London: Longman and Co. 1846.

SEVERAL of the brief papers of which Dr. Mayo's present work is composed must be familiar to the generality of our readers, as having appeared from time to time in the pages of this journal; still we are convinced that the author has exercised a very commendable judgment in collecting the whole of these observations into the compass of a separate volume, and of submitting them to the profession in their present form. A large proportion of the "facts and re-

lections" are of by no means ephemeral value, and they embrace certain moral and medical questions which deserve to be carefully and repeatedly considered by every member of the profession.

The subjects treated of in this volume are too numerous to admit of being discussed so fully as they deserve within the ordinary limits of a critical notice, but the following sketch will convey a tolerably clear idea of the materials of the work.

The first paper is intended to illustrate the insidious character which acute inflammation of the peritoneum is occasionally wont to assume. It contains three cases. The subject of the first of these was a sickly girl, 8 years of age, who presented much of the general appearance of simple fever, but was also the subject of peritonitis and pneumonia, which proved fatal. The second is a somewhat obscure case of fever, terminating in peritonitis: on examination after death there was discovered an ulcer in the ileum, near the cæcum, of the size of a halfpenny, perforating both internal coats, and another in the colon, of the size of a sixpence. The third is that of an intemperate man, ætat. 41, the subject of ascites and cirrhosis of the liver, but with no material disease of the kidneys, who died of peritonitis, induced by the operation of paracentesis abdominis. We think that this subject would have admitted of far more ample illustration than it has received from the author—the details of the cases above alluded to scarcely convey a full idea of the insidious character which the most dangerous forms of peritonitis are liable to assume among the unhealthy, ill-nourished, and intemperate denizens of crowded cities.

The brief chapter on "petechial disorders" is of great interest, as illustrative of a cause of rapid dissolution in persons suffering from an impoverished and perhaps vitiated condition of the fluids, with a weakened condition of the muscular tissue of the heart.

The chapter on "gastrodynia" includes three instances of very aggravated forms of this disease, successfully treated. The author considers that each of these cases was certainly tending to a fatal termination when arrested by remedies. In the first, the cure appeared

to be attributable to the use of mercurials, followed by a course of non-purgative neutral salts; in the second, to mercurials, combined with a sedative; in the third, to sedatives alone, or partially aided by alkaline doses.

The remarks on "ileus" are suggested by two cases, the first of which is that of a man, ætat. 29, who died from the effects of a stricture involving the lower part of the rectum, about ten inches of which were so constricted as scarcely to admit a quill. Strong purgative medicines were repeatedly employed, subsequently to which the patient had copious vomiting of "loose, lumpy, dark fecal matter." The strictured condition of the bowel remained until his death. This oversight was possibly due to the rather prevalent opinion that stercoraceous vomiting is never present in cases of obstruction occurring low down in the large intestine. The second is the case of an aged lady, who had laboured under acute symptoms of ileus, and in whom "the curative means employed—calomel and active aperients—had been ineffectual, though applied earnestly and skilfully," until the case began to assume a very serious character, when—apparently in consequence of the pressure which had been employed in examining the abdomen—there was expelled an oval calculous concretion, about two inches long, with entire and, as it proved, permanent relief of all her symptoms.

We have long been strongly opposed to the plan of employing active purgatives in cases of obstinate constipation, attended with gastric and constitutional symptoms. That, in such cases, where a physical cause of obstruction exists, the introduction of irritants into the upper part of the bowel almost invariably aggravates the symptoms, and hastens the progress of a destructive inflammation in the part, without in any way assisting to free the passage, we are perfectly convinced. It must be admitted that, in many of these cases, the true cause of the constipation is not suspected until strong purgatives have been freely and repeatedly administered, when a sudden aggravation of the symptoms announces the mischief which has been proceeding within. Still, in all cases of obstinate constipation attended with nausea and abdominal tenderness, the safest course (apart

from surgical measures) unquestionably is to eschew purgatives, and to trust principally to enemata, abstinence, and mild antiphlogistic measures.

The following is one of the practical hints contained in the chapter on erysipelas:—

"These cases illustrate one point at least in the treatment of erysipelas, namely, what I presume to consider the valuable effect of the Emplast. Cantharid. as superseding the erysipelatous action, and substituting for it a safe and mild form of inflammation. I am well aware that here, as in other forms of disease, this remedy is very inapplicable as a substitute for abstraction of blood, when youthful energy, or plethora, make such abstraction expedient."

The remarks on "the connection of cerebral with pulmonary disease," contain illustrations of the influence which pneumonia, and other causes of thoracic obstruction, have in determining the occurrence of cerebral apoplexy, and also afford examples of the occurrence of marked cerebral symptoms in low forms of pneumonia.

In remarking on "pseudo-rubeola" Dr. Mayo observes, that "the supposition that rubeola sometimes occurs more than once to the same person, perhaps owes its existence to the occasional occurrence of a rubeoloid eruption, mistaken for measles." It is no doubt expedient that this mistake should be avoided; but, besides this general reason for paying some attention to pseudo-rubeola, it is probable that it has a character of its own, and a bearing upon disease, which it may be inexpedient to neglect. Though such eruptions may not be measles, they will often be found in company with severe disorders of other kinds, and possibly may indicate the procedure by which the concomitant disorder may be relieved. In two cases which occurred in Middlesex Hospital, the author remarked that—

"In each, after two days of pyrexia, rubeola apparently developed itself very fully, without coryza. In both, after lasting about thirty-six hours, it abruptly disappeared. Small vesicles were then observed extensively grouped, and these turned out to be a varioloid eruption, which in each case ran its course very fully; the patients being young, and bearing on their arms the marks of vaccination. In the second of these cases, I witnessed, on close examination, the vesti-

cles apparent, before the rubeoloid eruption had disappeared" (pp. 70-71.)

The remarks on "hysteria, and the hysterical diathesis," are of great value, as pointing out the importance of accurately distinguishing between inflammatory and other organic diseases, as occurring in persons of hysterical diathesis, from that class of purely hysterical affections which so frequently simulate a variety of severe morbid actions. In illustration of this point, the author relates a case of inflammation of the femoral vein, attended with white oedema of the thigh, occurring seven weeks subsequently to delivery, followed by suppuration around the knee-joint. On the termination of this process, the symptoms of cerebral turgescence, which had been observable from the commencement of the disease, became more obvious. On their abatement, contemporaneous with the action of a seton, the conjunctivæ became inflamed and painful. A state of hemiplegia next developed itself, which certainly had not existed during the period of cerebral excitement. This condition co-existed with mental and other evidences of hysterical irritation, and the case is adduced for the purpose of illustrating the extent to which inflammatory affection may co-exist with a hysterical diathesis. Dr. Mayo also relates a case of what he believes to have been meningitis, occurring in a person of hysterical diathesis; and an instance in which he considers it questionable whether the symptoms depended upon hysteria or upon insanity, occurring in a subject of hysterical diathesis. We fully accord with the author in his opinion, that much injury is liable to be inflicted in consequence of an erroneous interpretation of symptoms occurring in persons of known hysterical predisposition. Such individuals are, of course, liable to many forms of severe organic disease, and there can be no doubt that much bad treatment has often been employed in consequence of a mistaken diagnosis in such cases. We well remember to have seen a case in which paraplegia, depending on strumous caries of the spine, was regarded, at its commencement, as a feigned or hysterical affection; and we, not long since, saw a large collection of pus evacuated from the gluteal region of a girl, who had, at first,

been considered to be the subject of an hysterical affection of the hip-joint. Practitioners are now, however, beginning to exercise their powers of discrimination in these cases; and the profession is certainly indebted to Dr. Mayo for his sensible remarks on the subject.

The following case affords a useful caution in the treatment not only of scarlatina, but also of all fevers in which there is reason to anticipate the occurrence of severe bowel complication.

"An autopsy was witnessed by me at the infirmary, about two years ago, which forcibly suggests to my mind the possible evils of this practice (of unloading the bowels and liver by aperients at the commencement of our treatment of acute and chronic diseases) if rudely pursued, in scarlatina. This person, a female, aged 25, well made, and apparently in previous good health, the patient of one of my colleagues, had died rather suddenly, and with no prior suspicion of danger, as I was informed, about the middle of the eruptive period of scarlatina. The eruption had been well out, and there was nothing to account for death in the extent of ulceration of the tonsils, &c. The eruption had come well out, I say—somewhat too well, indeed; for it completely bespread the mucous membrane of the small intestines, and, in some degree, of the large intestines. Thus there was probably too large a surface of the body, internal as well as external, unfitted for its duties; and thus, not improbably, the disease became mortal. Now, I see no reason to suppose that any undue interference with symptoms, or neglect of treatment, had occurred in this case. Still it is suggestive of a warning on that subject. Assuredly, in this morbid state of the mucous membrane, an irritating purgative might have effected a most dangerous aggravation of the danger of the patient, great as it was at any rate" (pp. 117-18).

The latter portion of the work contains some sensible observations upon the recently mooted question with regard to the power of medical treatment as compared with that of the *vires medicatrices nature* as they are wont to operate when uncontrolled by the interference of art; this question is, however, of too much importance to admit of being discussed in a casual manner: we shall, therefore, not make any further allusion to it at present than to recommend to our readers the perusal of Dr. Mayo's clever remarks on "Homœopathy and vis Medicatrix."

The chapters headed remarks "On the Plea of Insanity," "A Visit to Bethlem," and "Impunity of Murder in presumed Insanity," contain some highly judicious remarks upon the error and injustice of confounding acts resulting from perversion of the moral faculties and feelings with offences committed under the influence of true mental aberration or insanity properly so called: of, in fact, granting to criminals whose offences have been perpetrated under the influence of unrestricted and brutal passions, wayward dispositions, and the frenzy resulting from habitual intoxication, that immunity which philanthropists have hitherto claimed only for those who are involuntarily driven on to the commission of violence by the irresistible power of genuine insanity. We regret that we cannot enter more fully into the author's arguments upon this great moral and medico-legal question, but we can assure our readers that they fully correspond in value with the other portions of his highly practical and sensible work.

Proceedings of Societies.

ROYAL INSTITUTION.

January 15, 1847.

Professor Brande on the Properties and Uses of Gun-Cotton—Announcement of Professor Schönbein's Process.

THE weekly evening meetings of the members of the Royal Institution commenced for the season on Friday, the 15th inst. The theatre was completely filled with the members and their friends, the subject proposed for the lecture being the principal source of attraction.

Prof. BRANDE commenced by observing that, within the last few months, the manufacture and uses of gun-cotton had received an unprecedented degree of attention, not merely from scientific men, but from the public in general. So soon as the discovery had been announced, the honour of making it was claimed by various individuals. It was unnecessary to dwell upon their claims: a simple statement of the facts would, however, show to whom the merit of the important applications of the discovery was really due. In the year 1833, Braconnot first announced, in the *Annales de Chimie*, that he had procured a new substance, possessed of very singular properties, by acting on

starch, saw-dust, linen, and cotton, by concentrated nitric acid. The product from starch was a white powder, without any acid reaction, and looked like the original starch unaltered. It differed from it, however, in being exceedingly inflammable, taking fire at a comparatively low temperature, and leaving scarcely any residue. A portion of starch thus prepared was placed on paper, and held over a lamp, when the whole was speedily consumed. Paper which had been soaked in concentrated nitric acid, washed, and dried, was found to be entirely changed in its physical and chemical properties. It was tough, and had somewhat the character of parchment. When heat was applied to it, it burnt rapidly, and was entirely consumed. If these substances were heated with nitric acid, they became dissolved, forming a mucilaginous solution; on adding water to the solution, a white pulpy matter separated, to which Braconnot gave the name of *xyloidine*, to signify its derivation from woolly fibre. Subsequently the properties of xyloidine were examined by other chemists. Pelouze confirmed the results obtained by Braconnot, and determined that the new compound inflamed at a temperature below that required for the singeing of paper; i. e. under 400°. He suggested that the material thus prepared might be made useful for certain purposes in the artillery, but without stating how or in what way he proposed to apply it.

The subject attracted no further notice, until, in the course of the last summer, Professor Schönbein announced to the British Association that he had succeeded in procuring from cotton-wool a very explosive substance, which might be made a useful substitute for gunpowder: to this he gave the name of *Gun-cotton*. For some time before this announcement, he had been engaged in researches which had led to the discovery of a singular principle called *ozone*,* one of the most powerful oxidizers with which we are acquainted; and it is probable that these researches led to his perfecting the process, the first foundation of which had been laid by Braconnot. Schönbein ascertained that the inflammable compound of cotton was produced in a much more perfect degree by the mixture of sulphuric with nitric acid than by nitric acid alone; and the proportions which he employs are, *two parts* by measure of sulphuric with *one part* by measure of nitric acid, both of the acids being in their most concentrated state. Professor Brande having mixed the acids in these proportions, the mixture formed a colourless liquid of a high temperature, and evolved copious acid fumes. He then observed that it was probable that some new substance

* See Vol. xxxvi. p. 568.

(ozone?) was here produced, since the two acids thus mixed had properties entirely different from those possessed by either separately. Thus neither nitric nor sulphuric acid had any bleaching power separately; but, upon pouring a coloured liquid (Indigo?) into the mixture, the colour was discharged as readily as if chlorine had been present. Again, the action of this compound on sugar was widely different to that of either nitric or sulphuric acid. Thus, by digestion in it, sugar became converted to a kind of yellow resin: it was no longer soluble in water, but quite soluble in alcohol, forming on evaporation a kind of varnish. It took fire at a low temperature, and burnt like a resin, with a yellow smoky flame. Experiments were performed to illustrate these properties. The most remarkable effects were, however, produced when any form of lignin or woody fibre was immersed in the mixture. The chemical properties of the substance were entirely changed, although, in appearance, it was but little altered. Tow, saw-dust, linen, or paper, might be used; but no substance was so well fitted for the purpose as finely carded cotton wool. All that was required was to soak the cotton wool, well pulled out, in a vessel containing a *large quantity* of the acids, in the proportions above mentioned. When fully impregnated with the mixture, the cotton was to be removed, or it would in time become dissolved: it should then be transferred to water, and washed until no trace of acidity remained about it. It should be dried at a gentle heat, and it was then fit for use. [Some of the cotton was here prepared by the Professor].

It was difficult to give a satisfactory theory of the change produced in the cotton. Lignin consisted of C12, H8, O8: it was, no doubt, oxidized during the process, but, whether by the action of a new principle formed (ozone), or by the mere transference of the elements of nitric acid to it, it was difficult to say. Nitrous acid might be obtained from it by distillation. The cotton was considerably increased in weight; 100 parts of the wool yielding 160 part of gun-cotton. When well prepared, it was white and flocculent, and, to all appearance, unchanged physically; but the microscope showed a peculiar difference; for whereas the fibre of ordinary cotton, when polarized in the microscope, had a certain lustre, the fibre of gun-cotton appeared in the form of a black streak.

The prepared cotton, when heated to about 350°, was entirely resolved into gaseous matter with flame; and if confined, it exploded with a loud report. It became inflamed at a temperature much lower than gunpowder, which required a heat of 575° in order to explode it. This was proved by

placing portions of each on paper and holding them over a jet of gas, when the cotton exploded without the gunpowder. Any substance in the slightest state of ignition would suffice to kindle it, and it would be observed that it left no residue whatever. Its explosion took place more rapidly than that of gunpowder. This was ingeniously illustrated by laying equal trains of each on a board, the trains running in opposite directions, and touching only at one point, *i. e.* the centre. A little detonating powder was placed at the extreme end of each train in order to indicate by sound the difference in the time of explosion. The trains were fired by applying a hot iron to the central point where they met; the gun-cotton burnt with much greater rapidity than the powder, and there was a distinctly perceptible interval between the detonations at the two ends. It was also evident, that while the powder produced a visible smoke in burning, there was no visible vapour from the cotton. Although so highly explosive, gun-cotton presented an anomaly; for if a train of it were firmly pressed in the centre by any hard body, it might be ignited on one side without the explosion being communicated to the other half. This experiment was successfully shown. A portion of cotton was then placed on an anvil, and it was proved that by a smart blow it easily and entirely exploded on percussion. The electric spark would ignite it, but the same precaution was required as in the case of gunpowder, *i. e.* to slacken the course of the electric fluid by making it pass through water, or it produced no effect. The cotton might be made to explode *in vacuo*, but without any report, showing that air was not absolutely necessary to its combustion. This fact was illustrated by placing a small portion in a receiver provided with wires through which the electric spark could be easily passed, and made to traverse the cotton. When the receiver was exhausted, the discharge was made: a very faint diffused light appeared at the time of explosion, but there was no sound, nor was there any residue. The cotton, therefore, contains enough oxygen for its own combustion. The height of the barometer after the explosion would indicate the quantity of gases evolved from a given weight. These gases had been found by analysis to be carbonic acid, carbonic oxide, deutoxide of nitrogen, nitrogen, cyanogen, and aqueous vapour. There was undoubtedly an acid product formed, *i. e.* nitrous acid, from the deutoxide of nitrogen. This was proved by placing in a bell jar, having some cotton at the bottom, a long strip of litmus-paper, and another strip of paper soaked in a solution of iodide of potassium. On discharging the gun-cotton by a heated wire, the litmus-paper was reddened, and,

on the other strip of paper, iodine was set free. Besides this, it was made evident that the bell-glass contained ruddy fumes indicative of the production of nitrous acid. The fact was also subsequently illustrated by discharging a small pistol loaded with gun-cotton at a sheet of litmus paper wetted and placed on a board: the vapour in the discharge reddened the paper. On firing an equal weight of gunpowder, it was proved that an alkali (sulphuret of potassium) was evolved. It was stated that, weight for weight, the explosive force of gun-cotton was as six to one compared with gunpowder.

Even when the cotton possessed no acidity whatever, an acid resulted from its combustion. The Professor exploded on a sheet of litmus-paper some of the cotton prepared by Schönbein himself, and also an excellent specimen prepared by Mr. Bell, of Oxford Street.* In both cases a wide red stain was left after the explosion.

Gun-cotton is remarkably *hygroscopic*, and absorbs water with great rapidity. This interferes with many of its properties, and it requires to be thoroughly dried before use. If a portion well dried be balanced in a scale, it will be found to increase rapidly in weight by a very short exposure. It also possesses another curious property, namely, that it is remarkably *electrical*. The slightest friction develops in it a large quantity of negative electricity. In order that this property should be manifested, the cotton should be previously well warmed, to deprive it of hygroscopic water. A thin strip dried was drawn between the fingers, and then placed over a gold-leaf electroscope; the leaves diverged to a great degree in an instant. The Professor remarked,—what all who have prepared this substance must have observed,—that, when warm and dry, it adheres in small masses to the fingers on attempting to pull it out. Such is not the case with ordinary cotton. Here, then, we have a new and curious property developed. Xyloidine, in all its forms, manifests highly electrical properties. Professor Schönbein, by a singular process, has succeeded in making from cotton a transparent paper or skin which is highly electrical. He digests the gun-cotton in ether; a portion is dissolved, and, by evaporation, it is obtained in a thin coherent film as transparent as glass. This experiment has been tried by many persons without success, even where

* This cotton, which appears to be even superior to that of Schönbein, is prepared with the two acids in the same proportions poured over the cotton in a perforated funnel for about five minutes. It is well washed in water, then in a weak solution of ammonia, and afterwards dipped in a very weak solution of nitrate of strontia, which causes it to burn with a bright red flame. The suddenness of explosion in this cotton is perfectly astonishing.

pure washed ether was employed. It would appear, however, that the addition of alcohol to the ether facilitates the solution.

Independently of its use as an explosive, gun-cotton has been already employed by the pyrotechnist, and many pleasing effects are produced by soaking the cotton in solutions of various salts which give colour to flame, and burning it. The theatre having been darkened, three strips of cotton prepared with a solution of strontia, baryta, and soda, were burnt: each was rapidly consumed, with the production of a red, green, and yellow coloured flame respectively.

It has been stated that any kind of woody fibre may be converted, by the mixture of nitric and sulphuric acids, into an explosive compound. Saw-dust, tow, and other ligneous matters thus prepared, were now produced and burnt; but the result in these cases is to leave more or less residue; they are, therefore, far inferior to cotton-wool for practical purposes.

The Professor concluded an interesting lecture by comparing the advantages and disadvantages of gun-cotton as a substitute for gunpowder. Among the principal disadvantages were, the low temperature of explosion,—irregularity of effect,—the production of acid and a large quantity of steam or aqueous vapour. He considered, however, that the gun-cotton had not yet had a fair trial: that, in fact, the discovery was too recent to allow of a proper judgment being formed, and that its applications to practical purposes might hereafter become much more extensive and useful than they were now supposed to be.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

January 12th.

MR. CÆSAR HAWKINS IN THE CHAIR.

On the Detection of Poison in the Urine.

By H. LETHEBY, M.B., Lecturer on Chemistry at the London Hospital.
[Communicated by T. B. CURLING.]

THE author briefly referred to the experiments of Wohler and Steyberger, Tiedemann and Gmelin, Orfila and others, in showing that many mineral, animal, and vegetable poisons, are admitted into the circulation, and eliminated by the action of the kidneys.

These facts led him to inquire whether the various poisons might not be disposed of in a similar manner; and, if so, whether their existence in the renal secretion might not furnish a hint for the treatment of cases of poisoning; and, thirdly, whether their detection in the urine would not supply evi-

dence of a very valuable character for the guide of the medical jurist.

With these objects in view, he analysed the urine of persons under the influence of the various poisons, and tested his results by experiment upon the lower animals.

He succeeded in detecting the following poisons—sulphuric, muriatic, nitric, phosphoric, and oxalic acids; of the alkalies, he had discovered the presence of potash, soda, and ammonia; of the neutral salts, he enumerated nitrate of potash, iodide of potassium, sulphate of magnesia, the red and yellow prussiates of potash, and chloride of barium; of the salts of the other metals, he had recognised those of antimony, arsenic, lead, mercury, copper, iron, and silver.

With the view of detecting the organic poisons, the author instituted another class of experiments, the object of which was to ascertain if the vegetable poisons would, after their administration, endow the urine with any special physiological power over the system of another animal; and the conclusion to which he came was, that the active principles of many organic poisons, such as opium, belladonna, hemlock, aconite &c., would, in part, pass through the system, and appear in the urine unchanged.

With respect to the second question, as to whether their detection in the urine might not furnish a hint for the treatment of cases of poisoning, the author showed, from experiments upon animals, that diuretics were of great service in getting rid of poisons which had been administered to them, and thus helping them very considerably in their recovery.

The third question embraced by the paper—viz. whether the detection of the poisons in the urine might not supply evidence of a very valuable character for the guide of the medical jurist?—was proved to be an important one, inasmuch as the urine might be the only fluid or product at the disposal of the chemist; 2dly, the evidence deduced from it might be of a positive, and, therefore, satisfactory kind; 3dly, those poisons are recognised with more ease in this secretion than they are in the tissues; and, 4thly, they may exist there to a larger amount than in any other part of the body.

A few other questions were referred to as having an important bearing on this subject, as—

1st. Whether every poison makes its way to the urine, and what are the characters by which it is to be recognised?

2dly. What is the smallest amount of each of the poisons capable, after its administration, of being detected in the urine?

3dly. What is the earliest period at which the different poisons may be recognised, and what the latest?

4thly. Whether any relation existed between the quantity discovered in the urine, and the quantity administered?

5thly. Whether there are any circumstances which may increase the facilities for their elimination, and whether there are any which may diminish them?

These were questions which the author of the paper hoped to determine at some future period; at present, he believed that the facts, as they stood, warranted the following conclusions:—

1st. That many poisons were absorbed into the circulation.

2dly. That these poisons are eliminated by the kidneys, and may be detected in the urine, either by their chemical or physiological reactions.

3dly. That these facts, together with others from experiment, point to the value of diuretics in the treatment of cases of poisoning.

4thly. That it is possible to obtain, from an examination of the urine, some of the most valuable and certain evidences regarding the administration of a poison.

5thly. That we should not omit to examine this secretion in every case of suspected poisoning.

In the course of the paper, the author alluded to the presence of an excess of phosphates in the urine of persons occupied in the manufacture of lucifer matches, and referred it to the inhalation of phosphoric and phosphorous acids generated by the slow combustion of the phosphorus. He proposed a very simple remedy, that of exposing shallow vessels, containing turpentine, in different parts of the building, but especially in those situations where the phosphorus was most liable to oxidation: by this means he found that the vapour of turpentine would become diffused through the atmosphere, and so check that slow combustion of the phosphorus which was the source of all the mischief to the workmen.

Dr. GOLDING BIRD remarked that the paper just read contained some points of great interest; the most interesting, however, being, probably, the least novel. Thus it was long ago demonstrated that the kidney carried from the circulation all effete and injurious matters that were held in the blood in solution, either in a changed or an unchanged condition. This latter law was of universal application, whether it related to saline or vegetable matters.

One of the facts mentioned in the paper confirmed the experiments made by Donné and himself, (Dr. Bird), that when oxalic acid was taken into the stomach, either as a

medicine, or as it exists, combined with potash, in sorrel, it was afterwards found in the urine, forming crystals of oxalate of lime. Dr. Letheby had found it in combination with urea. The experiments on the mineral acids were evidences of the remarkable depurating action of the kidneys, as mentioned by German writers; but before we could judge of the value of these experiments, the data upon which they were made must be examined. He had no doubt of the accuracy of these researches, for it must be remembered that sulphuric and muriatic acids existed in the urine; the former becoming greatly increased if the person ate mustard or other articles containing sulphur. He had been a little surprised to hear that the mineral acids in a free state were so soon detectable in the urine; for, though it was mentioned in books as possible, he had repeatedly tried to detect it, and had been vexed to find how different were the results to those he had expected. He might, indeed, observe, that he had never succeeded in making urine acid by the exhibition of the acids, except by the benzoic. He had given the sulphuric and nitric acid in cases of alkaline urine for weeks together, but had never succeeded in making that fluid acid. One of the facts stated in the paper was of a startling character—viz., that from three to five grains of arsenious acid might be safely taken into the stomach if the kidneys were stimulated to diuresis, as it would be carried off by this channel. He could not understand how this could be, unless, indeed, there was some short road to the kidneys not at present known; for the arsenic, before it reached these organs, must be absorbed into the circulation. It was difficult to understand how escape from the poison was effected. The experiments respecting the absorption of the metallic poisons confirmed the experiments of the best French chemists. His experiments, also, respecting the presence of antimony in the urine, from poisoning by that agent, confirmed the views of others.

Dr. SNOW said that the difficulty of removing an alkaline state of the urine, by the administration of the mineral acids, was no proof that these acids did not pass off by the urine; for in nearly all cases of alkaline urine it became alkaline after its secretion from the decomposition of the urea, and such an amount of ammonia was produced in this way as it would be almost impossible to neutralise by any quantity of mineral acid which could be safely administered as a medicine.

Dr. LETHEBY observed, that the remarks of Dr. SNOW had rendered it unnecessary for him to answer Dr. Bird, as far as regarded the detection of the mineral acids in the

urine. He might observe, however, that in these experiments the urine had been in the normal state, when, in fact, it was slightly acid, not when the phosphates were thrown out, as these would, of course, neutralize the acid given by the stomach. After giving these acids, the urine became more acid; the acids being formed either in combination with their base or not; but this did not affect the question. He could not explain, any more than could Dr. Bird, in what way diuretics acted in cases of poisoning, but he had merely mentioned the facts which he had observed.

Dr. COPLAND, in 1821, had published a memoir on chemical remedies, and their mode of elimination from the system; and, in 1824, had experimented with the mineral acids and camphor. These experiments would be found in a forthcoming number of his "Dictionary." One circumstance which he had noticed in relation to these acids was, that the sulphuric was more easily detected than either the nitric or muriatic acids; but this he had supposed, at the time, to arise from the circumstance of the two latter acids being decomposed. He had found the same difficulty as had the author, in detecting vegetable substances in the urine, as turpentine, camphor, and other volatile substances, were sooner carried off by the mucous membrane of the respiratory organs, than by that of the urinary. The depurating power of the kidneys had not been overlooked by British writers, who had done as much in this respect as the Germans; the latter, however, had a great tact in taking hints from us, and, as the Methodists would say, "enlarging" upon them. One fact might be mentioned, in reference to the action of diuretics in stimulating the kidneys in cases of poisoning—viz., that often the excitement in the circulation was so great, that the secretion of urine was altogether arrested. We should, in consequence, fail in the exhibition of diuretics, unless we first got rid of the congested state of the kidneys by depletion and diluents.

Case of Strangulated Congenital Hernia, in an Infant seventeen days old, requiring Operation. By W. FERGUSSON, Esq., Professor of Surgery in King's College, &c.

The patient, a child seventeen days old, had been perfectly well until the evening of December 6th, when it suddenly became fretful, and from that time up to the evening of the 8th, when seen by Mr. Fergusson, its sufferings seemed to increase. There was a painful tumor in the region of the left inguinal canal, and symptoms of strangulated hernia. The taxis had been tried without effect, and the indications seemed

sufficient to warrant an immediate operation with the knife. On opening the sac a teaspoonful of turbid serous fluid escaped, and a portion of small intestine was exposed.

The testicle was observed at the lower end of the sac. The stricture was divided and the bowel easily pushed into the abdomen. The patient, soon after the operation, went to sleep; in the course of three hours, there was a copious evacuation from the bowels, and all suffering seemed to have ceased. In the course of a fortnight there was a firm cicatrix, with no tendency to further protrusion.

The author remarks, that the tightness of the stricture had so far impeded the circulation in the cord and testicle, that the veins were greatly distended. The colour of these parts was purple, and the testicle was somewhat swollen, and not unlike a small aloe. He states his belief, that it is the prevailing opinion that inguinal hernia in an infant is usually congenital. To show that this is not always the case, he exhibited an example of very large protrusion of intestine in a boy only two years of age, wherein the distinction between the tunica vaginalis testis and the proper hernial sac is clearly shown.

The author states, that he has never seen the operation for strangulated hernia performed on any patient under the age of puberty, excepting in this instance, and few surgeons have had occasion to use the knife in infants thus affected. In conclusion, the author refers to several cases on record, and to two communicated to him by Mr. Curling, in which an operation for hernia was performed at an early period of life, but he has not succeeded in meeting with any case of operation at an age so early as that of the patient whose case he has brought before the Society.

Mr. CÆSAR HAWKINS had operated for hernia upon a child under seven weeks of age. It was brought into the hospital in all but a dying state. The hernia had been strangulated some days. The little patient was pale and comatose. The operation, however, was successful; but the child became again subject to hernia after two or three years. He did not think strangulation at an early period in life was so rare as Mr. Fergusson seemed to imagine; for he (Mr. Hawkins) had seen several cases in very young children. In one case in which a hernia was strangulated in a child three weeks old, he feared that he should have had to operate; but the strangulation was eventually removed by constantly dropping ether on the hernial tumor. In a case at twenty-two months of age, the operation was required. He had seen several cases

under puberty requiring this proceeding. He had operated successfully on a case at ninety-nine years of age.

Mr. LE GROS CLARK had lately operated at St. Thomas's Hospital on a lad fourteen years of age, who was admitted into the institution with symptoms of strangulated hernia, which, as the taxis and the other usual means failed to remove, he proceeded to relieve by operation. The scrotum was found to be empty, and on examining the opposite abdominal ring, it was found blocked up by the testicle. The hernial sac lay in reference to the external abdominal ring like crural hernia. When the hernial sac was exposed, it was found to contain about an ounce and a half of limpid fluid, which escaped. The sac was laid open, and six inches of dark-coloured intestine and the testicle were exposed, lying together. The stricture was tight, but was divided, and the protruded bowel returned. The case did well; the testicle on the opposite side was retracted into the abdomen, but the testicle on the side operated upon kept its status. Now it was necessary to keep up pressure on the ring, or the hernia would again descend. Pressure might produce atrophy of the testicle; in what way, then, could it be safely employed?

Mr. FERGUSSON thought, that in the case related by Mr. Clark the safety of the patient would be ensured, and the testicles uninjured, by the application of a truss, with a pad so hollowed out, as to prevent its exercising pressure on the testicles, and keep up the hernial tumor. With respect to protrusion after the operation for hernia, he had seen it occur, as had probably most surgeons. Some had said that the cicatrix left by the operation was sufficient to prevent such protrusion, but such was not the case. He had brought forward the case detailed to the Society as an instance of an operation for strangulation being required at a very early period of life. Strangulation, he was well aware, was not so uncommon in young children, but these cases were generally relieved by the taxis. In this instance, however, a more prolonged application of this proceeding would have been a trifling with life; the parts were swollen and tender, and the operation was imperatively called for. He proceeded at once to perform it; and he thought the case, taken altogether, was a desirable one to bring before the Society, as an encouragement to surgeons not to despair in cases of this description.

Mr. CÆSAR HAWKINS had seen several cases in which a truss had been applied to the groin in a condition of parts similar to that in Mr. Clark's case. The pad of the truss should have its lower part concave,

while its upper portion should press upon the external ring. With respect to the necessity of wearing a truss after operation, he had seen one instance, in consequence of neglecting this precaution, in which an operation was necessary to be performed a second, and in another instance, a third time.

Dr. GREGORY inquired if, in cases of congenital inguinal hernia in children, it appeared to prevail in a family? He related a case of a family, in which three boys were affected with the complaint.

Mr. CÆSAR HAWKINS, when attached to a Truss Society, had known instances of mothers bringing two or three of their children with hernia.

WESTMINSTER MEDICAL SOCIETY.

Saturday, Jan. 16, 1847.

MR. HANCOCK, PRESIDENT.

Sloughing of the Uterus.

Dr. F. BIRD placed upon the table the uterus of a woman who had been in labour three days, her attendant being a midwife. It was a face presentation, and delivery was effected by Dr. Bird by means of the perforator. The woman died fifteen hours afterwards, and the uterus was found in a sloughy and sphacelated state. He narrated the case as a remarkable instance of the rapidity with which the organ had been disorganized, inflammation having set in only a few hours before delivery.

Inhalation of Ether.

Dr. CHOWNE detailed some particulars of a patient who had been operated upon in Charing Cross Hospital whilst under the influence of ether.

Mr. HANCOCK related the case of a student of the hospital, from whose hand he had removed a large wart whilst he was under the influence of ether. He inhaled for three or four minutes, the ether apparently producing some congestion of the brain, though unaccompanied by stertor. The pulse fell from 90 to 60, and became very small; the pupils contracted. He was conscious of everything going on around him, but felt only the first cut of the knife. The sensations imparted by the ether were pleasant ones: he felt as though he had had a "heavenly dream."

Dr. SNOW said that the great effect of temperature over the relations of atmospheric air with the vapour of ether, had apparently been overlooked in the construction and application of the instruments hitherto used. This circumstance would explain in some measure the variety of the results, and ac-

count for some of the failures. The operators did not at present know the quantity of vapour they were exhibiting with the air; it would vary immensely according to the temperature of the apartment, as would be seen by some calculations he had made, and suspended in the room. One hundred cubic inches of air, saturated with the vapour of ether, at a temperature of

44° would contain 27 cubic inches of vapour.

54° " " 34.3 " "

64° " " 43.3 " "

74° " " 53.6 " "

84° " " 66.6 " "

being doubled by a rise of only thirty degrees.

He (Dr. Snow) was getting an instrument made which would enable the surgeon, merely by placing it in a basin of water, warmed or cooled to a given temperature, to administer an atmosphere of any strength he wished, and by this means to gain correct experience to guide him in future. The instrument which Mr. Ferguson, of Smithfield, was making for him, was on the plan of the inhaler of Mr. Jeffreys, with some alterations and additions. The air would meet with no obstruction from having to pass through sponge or ether, and the instrument, which would be of metal, as a good conductor of caloric, would be cheap and portable.

Dr. W. MERRIMAN had seen, at St. George's Hospital, three cases in which operations had been performed after the patients had inhaled ether. In the first case the inhalation succeeded whilst the patient was in the ward; but on coming into the theatre, the bandage fell from his eyes; he seemed frightened; no effect followed the inhalation, and he was sent away. In the second case a man had to have a finger removed. The first efforts at inhaling the ether were followed by some spasm and struggling; but at the end of ten minutes he appeared to be insensible, and the operation was commenced; the instant, however, the knife touched him, he bawled out, and snatched his hand away. In short, the ether had failed. In the third operation a leg had to be removed. The man inhaled for four minutes; he sank back as if insensible. Mr. H. J. Johnson got on with the operation (the crucial one), without evidence of pain, until he reached the bone; the man then awoke up, said the saw was being used, but expressed himself free from pain. He winced, however, under the application of cold water to the stump.

Mr. BROOKS believed that in both these cases the pulse rose in frequency.

Mr. HALE THOMSON believed that the failures in almost every case arose, either from an injudicious use of the instrument employed, from the imperfect nature of the

instrument, or the inhalation of free atmospheric air. He commented severely on the mania which seemed to prevail of making experiments with improper or imperfect instruments, instead of pursuing our investigations rationally and philosophically with an instrument known to be generally successful. He alluded to the instrument as modified from the one recommended by Dr. Boott and Mr. Robinson. Experiments made with instruments not at all calculated to develop the proper effects of ether were injurious to the character of the agent, and retarded the progress of our inquiries. He illustrated the baneful effects of this kind of proceeding by reference to the miserable and painful exhibitions which had taken place in the dental operations at the Westminster Hospital, where not only delirium, but convulsions, and almost asphyxia, had been the unfortunate results. He alluded to his own cases, recorded in this journal last week, as completely successful, and regarded their success as the result of a proper application of a good instrument. He threw out the hope that the ether would be a valuable agent in cases of hydrophobia, tetanus, and other spasmodic diseases.

Some discussion took place in respect to the value of the ether vapour in operations on the eye.

Dr. AYRES said that the eye, under the influence of the ether, was fixed as in sleep.

Mr. THOMSON thought it would be less applicable in diseases of that organ than in others. Operations on the eye were not of a very painful character. He thought, with respect to its use, that it could not be safely employed in children, as the debilitating effects of ether were often of a very formidable character.

Mr. HANCOCK had operated on a boy of 11 years of age for strabismus, under the influence of ether; no bad effects resulted.

Dr. SNOW had seen Mr. Lawrence remove a diseased eye from the orbit with complete success.

Dr. BOWMAN thought that the fact of spasm and convulsion occurring in some cases would prevent the ether from being useful in cases of tetanus, &c.

ON THE VALUE OF DIFFERENT KINDS OF VEGETABLE FOOD.

BY MR. E. N. HORSFORD.

THAT the same species of cereal grain grown on different soils may yield unequal per-centages of nitrogen.

That one-seventh of fresh ripe cereal grains is moisture, which may be expelled at a temperature of 212° F.

That wheat- and rye-flours, which to the eye and sense of feeling are undistinguishable

from each other, may differ by from one to three-tenths of their whole quantity of nitrogen.

That root-crops grown on different soils may yield unequal per-centages of nitrogen.

That the per-centage of moisture in edible roots of the same species is, in the fresh condition, a constant quantity.

That beets, carrots and turnips, have a larger per-centage of moisture than potatoes.

That the nutritive values of peas, beans and lentils, correspond with each other.

That more aliment is contained in a given weight of peas, beans or lentils, than in an equal weight of any other kind of vegetable food analysed.

That in several of the grains and roots analysed there are organic bodies, beside those identical in composition with gluten and starch.

That the ashes of carrots, beets, turnips and potatoes, as Prof. von Liebig has already remarked, contain carbonates.

That iron is present in the ashes of all the grains and roots analysed.

That the differences between the theoretical equivalents, as estimated from the per-centages of nitrogen and those ascertained by the experiments of stock-growers, and particularly the differences between the results of the different stock-growers, may be attributed to the following reasons:—

Because the per-centages of nitrogen and carbon in fodder grown on different soils are unequal.

Because the prominent test has been the increase or diminution in weight of the animal fed. *Increase* in weight may arise from secretion of fat, derived from the sugar and starch of the plants. *Diminution* in weight may follow unusual activity, increasing the consumption of fat already present.

Because the experiments, in but few instances, were undertaken with substances whose per-centages of water and nitrogen had been ascertained.

Because theoretical equivalents have been employed in conditions unequally suited to digestion. The same food, coarse or fine, fresh or prepared for easy digestion, yields unequal measures of nutrition.

Because the conditions, whether exposed to the open air or protected in stalls, whether subjected to labour of uniform severity, or allowed the free range of pastures, have not been made alike.

Finally, because, as above intimated, some animals by nature differ greatly from others, in the facility with which fat and muscle are developed, even when the circumstances are precisely the same.—*Lond. and Edin. Phil. Mag.*

Hospital and Infirmary Reports.

REPORTS OF
CASES AT THE WESTMINSTER
HOSPITAL.By F. WILDBORE, Esq., M.R.C.S.
House-Surgeon.

CHEST INJURIES.

Fractured rib—Pneumo-thorax—Pleuro-pneumonia—Recovery.

DENNIS MURPHY, 18 years of age, a brick-layer's labourer, was brought to the hospital on the 1st of October, at 1 o'clock, P. M. He was admitted under the care of Mr. Phillips; it was stated that he had fallen from the height of 30 feet upon a heap of bricks, his back and side striking upon them. There was a severe bruise over the sacrum; some dyspnoea and pain referred to the right side, which, on examination, appeared to depend upon a fracture of the 6th rib. There were no injuries on the head. When admitted he was in a state of collapse, and he was ordered to take—Spirit. Am. Aromat. ʒj.; Tinct. Card. c. ʒj.; Aquæ Menth. Pip. ʒj. st.—A rib belt was buckled around the chest:

Vespere.—Reaction is setting in; the pulse is rising, and the temperature of the surface is greater.—℞ Hydrarg. Sub. gr. iij.; Pulv. Ant. c. gr. iij. st. sumen. Haust. Sennæ post hora 4.

Oct. 2d.—The skin is becoming hot, and the face is beginning to flush. The pulse is 100, and has more power than last evening. The bowels have been freely acted upon.—Mist. Diaphoretica, ʒj. 4tis hōris.

Vespere.—The skin is now hot, and the face is much flushed; the pulse is 120, full, and rather hard. There is some dyspnoea, and great pain in the right side on inspiration. On applying the stethoscope slight pleuritic friction is detected near the seat of fracture. He has a short hacking cough, and the sputa is streaked with blood.—V. S. ad ʒxv. Mist. Cathart. c. Ant. 3tis hōris.

3d.—The dyspnoea and pain in the side were much relieved by the bleeding; the pulse immediately after it rose to 134, but was lessened in power. It is now 120, small, and free from sharpness; the bowels are purged; the skin much less hot, and the respirations are tolerably easy; the cough continues.—Omitte Mist.

Vespere.—The bowels are now quiet, but the pulse has greater power, it is 120, full and sharpish; the skin is hot. Percussion elicits great resonance over the whole of the left side of the thorax and in the cardiac region; it is equally so with the other por-

tions of the chest. The heart's sounds are not present in their usual position, but they are clearly heard at the lower portion of the sternum and ensiform cartilage. The metallic tinkling, described by Dr. Hope as being "like the sound produced on dropping a small pin into a glass, abstracting the click produced by their contact," is most distinctly heard over the whole of the anterior and the lateral regions of the left side of the chest, when the patient speaks or counts a number, and there is scarcely any perceptible dilatation on a full inspiration. The respiratory sounds are quite lost except by the side of the spinal column and in the upper axillary region. Excepting when he inspires deeply he suffers but little pain, and the respirations are not greatly interfered with. He has coughed up this evening about a teaspoonful of blood.—℞ Ant. Potass. Tart. gr. ʒ.; Tinct. Camph. Comp. ʒss.; Liq. Am. Acet. ʒiij.; Mist. Camph. ʒij. 4tis hōris.

4th.—The chest sounds continue the same; he is free from pain, and coughs but very little.—℞ Mist.

5th.—Passed a restless night. The respirations are much less easy, almost amounting to dyspnoea, and the cough is troublesome. The skin is moist; there is great thirst, and the pulse is 120, small and thready. The metallic tinkling is still clearly heard, more particularly under the pectoral muscle, but the thorax is slightly less resonant. The heart's sounds continue distinct under the ensiform cartilage and the lower portion of the sternum, and cannot be detected in their proper position.—℞ Mist. Salin. Effervescens, 4tis hōris.—Hydr. Chloridi, gr. ij.; Pulv. Opii, gr. ʒ, 6tis hōris.

6th.—The respirations are much more easily but not naturally performed, and the countenance has a better aspect. The pulse is 104, weak and compressible; the bowels are open; the cough is quiet, and he is free from pain; the resonance of the chest and the stethoscopic sounds remain the same.—℞ Pr. Pil.

7th.—The gums are now beginning to be affected by the mercury; in other respects there is no change.—℞ Pr. Pil. bis die.

8th.—The gums are now fairly affected by the pills, and the pulse is 96 and natural. The cough has left him, and his respirations seem tolerably natural. The resonance persists over the left side of the thorax, and the stethoscopic sounds are unaltered.—℞ Pr. pil. o. n.

15th.—Since the last date the general resonance of the affected side of the chest has much lessened, and the metallic tinkling is now nearly lost. Near the seat of the fracture pleuritic friction can be detected with the stethoscope, and the heart sounds are

heard in nearly their natural position. He has neither pain or cough excepting when he inspires deeply. The gums are still slightly under the influence of the calomel.—Pr. pil. o. n.

On the 28th day of the month he was at his own request discharged.

Spike wound of the Chest—Emphysema—Pleuro-pneumonia—Recovery.

John Picket, a feeble old man, 54 years of age, was brought to the hospital on the afternoon of the 3d of July, with a spike wound of the right side of his thorax. It was stated that he was standing upon a ladder cleaning windows, that the ladder gave way with him, and that he fell upon the iron railings of an area. The spike had entered the thorax obliquely immediately below the edge of the latissimus dorsi muscle, where it leaves the chest to form the posterior boundary of the axilla, and had passed forwards and upwards, carrying with it a portion of his shirt to some distance within the wound. The external orifice was not larger than a shilling, and there was very little external hæmorrhage.

He complained of severe pain and great desire to cough, but inability to do so; there was no hæmoptysis, but a crepitating tumor, the size of a pullet's egg, existed below the clavicle between the origins of the pectoral and the deltoid muscles, and air was present also under the pectoral muscle.

The portion of his clothing was removed from the wound, the edges of it were brought together and a piece of dry lint was passed over it, a flannel roller was passed around the chest, and the arm was fixed to the side.

11 p. m.—He is now free from pain; the desire to cough has abated; the skin is hot, and the face is somewhat flushed; the pulse is full and soft. He vomited freely shortly after being put to bed, and the bowels were slightly acted upon. The emphysema has extended above the clavicle to the ramus of the jaw.—Hydrarg. Sub. gr. iij.; Pulv. Ant. c. gr. iij. st. Haust. Sennæ postea.

4th.—He passed a tolerable night, and is free from pain except when he coughs or moves; it is then referred to the base of the lung anteriorly. The emphysema has not increased; the pulse is 84 and soft; the skin rather hot, and the tongue is somewhat coated. The bowels have been freely moved.—Mist. Diaphoretica, ʒj. 4tis hōris.

Vespere.—There is now a trifling increase of the cough and the pain, and the pulse is 92, and a little more full. The dyspnoea is inconsiderable.—V. S. ad ʒvj.

July 5th.—The blood taken away yesterday is highly buffed, and but little cupped. The pain and the cough are less; the pulse

is 84, and has less power, but the skin continues to be hot, and the face is flushed. There is a good deal of mucous expectoration. The diaphoretic mixture purges her.—℞ Liq. Amm. Acet. ʒij.; Vin. Ant. Tart. ℥x.; Mist. Camph. ʒj. ter die sumend.

6th.—The cough continues to be troublesome; pain is not present excepting when he moves. The emphysema is diminishing. Percussion elicits tolerably natural sounds. The pulse is 96, and quiet.

7th.—The wound was dressed; there was a slight purulent secretion, and it looked healthy.

9th.—The cough last night was very troublesome, and he complains of a good deal of fixed pain in the right side. The right lung posteriorly is dull, and there is a large quantity of rusty adherent muco-purulent sputa. Pulse 72, feeble; skin rather hot; bowels open.—Omitte Mist.—℞ Hyd. Sub. gr. ʒ.; Pulv. Jacobi Veri, gr. iij. 4tis hōris.

11th.—The cough and the pain are less, and the sputa is neither so rusty or viscid. The pulse is 80, and feeble; the bowels are open, and the tongue is clean.—Pr. Pil. bis die.

18th.—The gums have been slightly affected for some days, and the chest symptoms are relieved. The emphysema has disappeared.

22d.—Percussion of affected side pretty natural excepting at the lateral base, where some œgophonism is heard. Respiratory murmur tolerably distinct to the base of the lung anteriorly and posteriorly. Heart's sounds most distinct, nearly natural, more regular than at last report.

26th.—Respiratory murmur is heard over the whole of the left side of thorax; some dulness remains at the base of the lung laterally, where distinct pleural friction is heard very distinctly on full inspiration.

On the 30th he was convalescent, but the wound did not heal until some days afterwards.

Medical Trials and Inquests.

The cold water treatment—fatal effects—Verdict of manslaughter against a hydro-pathic physician (?) and a nurse—Physiology and pathology in inquests.

[THE following case of alleged death from the cold water treatment presents many points of resemblance to that reported at page 1055 of our 37th volume. The post-mortem examination of the body of the deceased is remarkable for its completeness;

and the physiological discussion on cold baths at 16° below freezing, and the annual consumption of oxygen by adults, with the introduction of the names of Celsus, Hippocrates, and Galen, as supporters of the *wet sheet* doctrines, affords an enlivening episode in proceedings which are in general of an unusually gloomy character. As the case will undergo a trial, we forbear making any comments at present; but the details will be found well worthy of perusal.]

Yesterday, an inquest, adjourned 'from Wednesday last, was held before Mr. Higgs, Coroner for the Duchy of Lancaster, and a jury, at the Crown and Horseshoes Tavern, Enfield, on the body of a young woman named Martha Hobbs, who died on Monday morning last at the house of her aunt, Mrs. Betts. It appeared from the evidence given on Wednesday, that last Tuesday week she had come from a boarding-school where she was in service, to her aunt's house, labouring under disease, apparently of an erysipelatous character, and that by her aunt, and under the direction of Dr. Lovell, a medical practitioner in London, she had been subjected to a course of hydropathic treatment during the week which preceded her death, having taken a succession of cold or tepid baths, been wrapt at times in a wet sheet, and had wet cloths applied to her head. The details as to the treatment were stated in evidence on the first day of the inquest, which was adjourned for the purpose of allowing a *post-mortem* examination to be made.

The inquiry commenced yesterday with the examination of Emma Makepeace, a niece of Mrs. Betts, and assistant in her shop.—Witness knew that Martha Hobbs had been ailing. Had noticed a few spots on her forehead, which were rather of a yellow colour and about the size of a pea. Witness did not see any of the treatment which deceased received; but had seen wet bandages on her head. She had them continually. She was delirious. Her hair was on, but she had not so much as people generally have. She was satisfied with the treatment she received. Witness never saw her take any food except a little arrowroot on the Sunday before her death; had seen her take a small quantity of water. She had rather a difficulty in swallowing. The cloths upon her head were dipped in tepid water. Witness changed them once or oftener, and the water was tepid. Witness had nothing to do with the deceased except on the first day of her coming, and changed the cloths not above three times. Mrs. Betts seemed on very friendly terms with the deceased. Witness never heard deceased express a wish for food or any other refreshment. Deceased had, while she was in health, an objection to medicine

or doctors. She was a teetotaler, attended Mr. Munro's lectures, and subscribed for the water system when in perfect health. Dr. Lovell attended deceased, who never expressed a wish for another doctor. Dr. Lovell came first either on the Wednesday or the Thursday after her coming to Mrs. Betts's. He saw her on Sunday. Witness thought he came six times; on one occasion he stopped all night. Heard Mrs. Betts say that deceased had erysipelas in the face. Dr. Lovell stayed upon Friday night.

Mr. Asbury, surgeon, of Enfield, then read the report of the *post-mortem* examination, which took place about seventy hours after death. The countenance was swollen, cedematous, and extremely pallid, lips pallid, effusion in the eyelids, which were swollen and closing the eyes. Pupils dilated. Patches of scaly eruption on both sides of the face. Immediately before and below the ears, on either side, this scaly appearance extended over the whole scalp, matting the hair together in detached portions, resembling the character of plica polonica. The submaxillary and cervical glands were enlarged. No remains of erysipelas to be traced in the face. The anterior part and sides of the neck show the existence of erythema (erysipelas before it enters into the vesicular state). Patches of the same scaly disease present themselves all over the body. Some are circular and run one into the other; others distinct. Venous congestion on the inner side of the arm above and below the elbow, extending in an arborescent form. The whole of the body is cedematous, and pits upon pressure; not swollen, but in some degree attenuated,—and the integument surrounds the body as a tight bandage would do if applied. This character is more particularly marked in the trunk than in the extremities. The mammary glands are nearly absorbed. The abdominal viscera are in their natural position. The omentum presents the appearance of a transparent membrane, with network traces of fat upon it. The right lobe of the liver somewhat enlarged and congested; the left in its normal state. The spleen is much enlarged and congested, the stomach empty of food, and a small quantity of fluid in it, and its mucous lining in a healthy condition. The internal lining of the duodenum healthy; the external appearance of the jejunum is pallid; its internal surface is normal, but contains dark grumous fluid. The ileum is in its natural state, as well as the cæcum caput coli, and the ascending portion of the colon. Its transverse arch and descending portion are very much contracted: the rectum is in its normal state. There is no fecal matter in any part of the colon. The ovary and uterus are in their natural state; the bladder

healthy. The kidneys are both enlarged and congested, and the excretory ducts much enlarged. There were two small cavities in the centre of the left kidney containing pus. No inflammation in any part of the peritoneum. The pleura costalis and pulmonalis perfectly healthy, and no adhesions. The lungs perfectly healthy. The pericardium presents strong marks of inflammation on its internal surface, and extending over the left ventricle; but the right ventricle presents an unusually white appearance, the coronary vessels being contorted and gorged with blood. The heart is of its natural size and structure. The right ventricle contains a dark thin fluid, but no coagula, no marks of inflammation on its internal surface; the left ventricle is empty, its internal structure natural, the valves in their normal state, the larger trunks of the arteries and veins healthy. The gums and exterior of the mouth present a remarkably pallid appearance, as well as the fauces and tonsils, which glands are a little enlarged. There is no appearance of inflammation having existed in the throat. The teeth are normal. On removing the scalp serum escaped, and patches of lymph were found deposited on several distinct portions of the pericranium, the whole surface of which presented a gelatinous appearance. On removing the calvarium, it was found firmly attached to the dura mater. The inner surface of the calvarium presented no remarkable appearance. The dura mater was of a peculiarly white and glassy appearance, and venous congestion of the brain was distinctly seen through it. The middle meningeal artery, as well as both the posterior arteries, were contorted, and much distended with blood. On removing the dura mater, extensive inflammation of the arachnoid membrane, as well as the pia mater, existed, extending to that portion of the latter where it dips into the convolutions of the brain, in which there was a considerable quantity of serum, with lymph deposited in distinct patches. There are strong adhesions between the dura mater and arachnoid membrane on either side of the longitudinal sinus, for a little distance from it. The substance of the brain is greatly congested, and particularly so marked in the centrum ovale, corpus callosum, septum lucidum, and fornix. The substance of the brain is of its usual firmness, and presents no marks of chronic disease. At the base of the brain a considerable portion of fluid was found between the arachnoid and pia mater. The cerebellum presented no marks of disease.

Mr. Asbury then proceeded to state, that the question for consideration was as to the cause of death. The immediate cause was recent inflammation of the pericardium and

arachnoid membranes and pia mater, with congestion of the brain, brought on by the transfer of a chronic constitutional disease of the skin to internal membranes and organs, ending in acute disease and death; the transfer facilitated by the continued application of cold water. He had never seen the case living; and his opinion was founded on the post-mortem examination. As to the general treatment, he knew nothing of it except from the nurses. From inquiries, he understood that this girl, as regarded the chronic constitutional disease of the skin, had suffered from it for several years, that she was one of a large family, and that several of her brothers and sisters laboured under some cutaneous disease. She was in Brighton hospital, where he was told she was bled. The disease in that hospital was called leprosy. It was not for him to question the treatment under these circumstances; but it was not such as he should have adopted. He could not comprehend why any depletory system should be adopted in a system which indicated extreme poverty and pooriness of blood. That was about two years ago. He did not call the disease leprosy. He had not the least doubt that it was a case of psoriasis guttata; but it was first cousin to leprosy. Yet there was a marked line of distinction, and when it was found there ought to be a difference in the treatment. Psoriasis might be described in English as a species of scaly tetter. The post-mortem examination showed a total deficiency of blood. The blood in the right ventricle contained little or no fibrine, the nutritious portion of the blood. There was a perfect anæmia, or bloodless, condition of body. As there was a natural possibility that in cases of leprosy, psoriasis, or any diseases of the skin, the disease might be transferred to the internal membranes, he was glad when he found hereditary diseases of the skin taking an external form; dyspepsia, affections of the liver and kidneys, &c., ceasing as soon as the skin disease appeared. He should be extremely cautious in such cases. He should give directions to keep the external surface of the body warm, order nutritious diet, and an alterative system of medicine.

In answer to questions from Dr. Lovell, whether he was aware that at this moment psoriasis and other diseases of the skin were treated with water, cold or hot, in an institution in Bridge Street, London? Mr. Asbury replied, that he was aware there was a place in London where diseases were so treated; but his experience was in favour of warm baths. As surgeon to the Enfield Union, he had observed a great number of skin diseases in the workhouse; and there was great difficulty in getting rid of them till warm baths were established. Dr. Lovell

wished to know whether Mr. Asbury had ever tried the effect of cold water in skin diseases, or whether he knew anything of water treatment? Mr. Asbury replied, that, knowing by the experience of a number of years, as well as from the opinion of those who had lived before him in the profession, and among whom there was no difference, that there was a tendency to the transfer of skin disease to the trunk of the body, he should never dream of using cold applications.

Dr. Lovell observed, *that the practice had been recommended from the earliest times by Celsus, Hippocrates, Galen, and, in later times, by eminent authorities.* He never would order a bath till he had made himself thoroughly acquainted with the system; and for that purpose he had gone some thousands of miles, to a place where a great number of patients were always under treatment. The Coroner asked whether the application of cold water, harmless in warm weather, might not be injurious during a hard frost? Dr. Lovell responded, that three years ago he was abroad, and there he had seen the tops of the pines covered with frost-work, *while the thermometer was seldom less than 15 or 16 degrees below freezing-point, when he took the cold bath.*

Mr. Asbury remarked, that he had founded his opinion on sound physiological and pathological views of the human body. *Since 837lb. of oxygen were consumed annually by an adult man,* it was necessary that a due quantity of food should be supplied for that consumption; otherwise the tissues of the body must be taken up, and an anæmic condition of the constitution brought on. Dr. Lovell thought that Mr. Asbury wished to make it understood that there was a deficiency of food in the treatment. It was quite the reverse. Persons might eat as they pleased.

Mr. Asbury proceeded to state, that in this case the substance of the body had been taken up. So far he agreed with Dr. Lovell, that in most hydropathic establishments most extraordinary quantities of food were supplied. The water cure was a most dangerous and most powerful remedy. If practised with great caution, in cases where the disease arose from superfluous tissue, the cold water supplied the place of exercise. But when its application was carried out in other cases, the patient was exposed to great danger. Boils broke out; the inflammation indicated poverty of the system. The deceased person in this case was labouring under hereditary disease; and the application of cold sheets to her would do injury. The inflammation of the pericardium and of the membranes of the brain showed that prompt bleeding should have been adopted. The inflammation had existed only a few days. In the constitutional disease in its

chronic form he should not recommend bleeding. Although the application of cold might not be used to the patient, and he should be under the most judicious treatment, the transfer of disease from one structure to another not unfrequently took place; otherwise it was impossible to arrive at the conclusion that cold applications were a remote cause of death in this case. Dr. Lovell expressed himself perfectly satisfied with the account of the *post-mortem* examination, which it was stated had been attended also by Messrs. Tait and Taylor, surgeons.

John Sheffield, who had been examined on the first day of the inquest, was again sworn. He asked Mrs. Betts, on Tuesday morning, whether she intended to have a doctor. On Thursday evening Dr. Lovell said had he been there he could not have done any more than Mrs. Betts had done. Witness was very well satisfied with Dr. Lovell's conversation, but not with his treatment. Met Dr. Lovell on Friday morning, and asked him if he would allow witness to have another doctor. Dr. Lovell was quite agreeable to have another doctor if Mrs. Betts was agreeable; but said if there were another doctor he would have nothing more to do with it. At Christmas deceased came home with an abscess in her left arm. She got well; and a few days after had an eruption in her face.

Mrs. Cole, residing in Enfield, saw the arms and hands of the deceased sponged with tepid water, and cloths put round her head wet with tepid water. She frequently talked in a delirious manner. Arrow root, sago, and boiled milk, were prepared for her; sometimes she could take a little, sometimes not. Sometimes it appeared impossible for her to swallow.

Mrs. Hobbs, wife of Edward Hobbs, farmer and woodman, Piltown, Sussex, and mother of the deceased, was then examined. She had not seen her daughter since 12 months last September. Heard she was ill, and came down to see her. Arrived on Sunday at twelve o'clock, when she found her daughter quite in a dying state. Her daughter died next morning. Every now and then deceased put up her hand to her mouth to have her lips bathed with water. They told witness that they had a gentleman down from London. Witness was perfectly satisfied with the treatment. She had experienced it herself. Deceased was about twenty years of age.

Some further discussion arose as to the cause of death, when Mr. Asbury stated that Martha Hobbs might have died if she had been bled. The neglect of not adopting those means which, on the highest medical authority, up to the present day were known generally to cure inflammation of the organs affected when early applied, was much to be regretted. No doubt the cause of death lay

in the inflammation of those organs. The Coroner then recapitulated the evidence. There was no proof of cruelty against Mrs. Betts; and the question was, whether there was ground for believing that gross ignorance or gross negligence had been shown.

The jury proceeded to deliberate with closed doors. After a consultation which lasted two hours they returned a verdict of "Manslaughter," against Dr. Lovell*, in the first degree, and against Mrs. Betts, in the second degree. It was understood that twelve of the jury (which consisted of seventeen), including the foreman, were for, and five against, this decision.

The terms of the verdict not having been formally adjusted, the proceedings were further adjourned to Tuesday, at 12 o'clock.

Correspondence.

ON THE TREATMENT OF TYPHUS FEVER.

SIR,—It was not without some feelings of surprise that I read Dr. Searle's letter in the *GAZETTE* of last week, communicating a private correspondence that had taken place between us. I do not, however, wish to cast any reflections on Dr. Searle for having followed the indications of his own judgment in this matter; but I must confess that, had I known that it was his intention to make my letter public, I should not have expressed my opinion of the plan of treatment adopted by him in quite such complimentary terms.

The antiphlogistic treatment was in Berkshire fully and fairly tried, and, so far as my experience goes, with anything but a beneficial result in the *majority* of cases. I do not say that *some* of the cases in which there appeared cerebral oppression were not relieved by a modified application of the plan recommended by Dr. Searle; but the accumulated experience of many cases caused us utterly to abandon it, and to adopt that other method of treatment which I have mentioned in my former letters, which treatment I had previously seen employed at Guy's Hospital, and which is now generally adopted by those best experienced in the treatment of fever in this country.

The fever which prevails in Dr. Searle's neighbourhood may present complications and phenomena which are not present in that part of Berkshire in which I have practised, and which may render the plan he has recommended of more service there than we

* The necessity for a regulation bill is daily felt. We cannot find the name of this so-called Dr. Lovell in the London Med. Directory for 1847. Does he come from the University of *Gleeson*?

have found it to be elsewhere; and I must again reiterate that the let-alone system in the first instance, followed by early support,—or, in other words, the administration of a mild evacuant with the mint-water and sesquicarbonate of soda; and, if diarrhoea be present, substituting for it the chalk mixture with starch enemata, followed in either case by early support when the tongue becomes brown,—were by far the most efficacious modes of treatment that I witnessed.

I cannot conclude this letter, however, without tendering my thanks to Dr. Searle for the publication of his experience, though in a different quarter, of the value of a mode of treatment which I have had cause to abandon, and, at the same time, to express my acknowledgments for the very courteous manner in which he has been pleased to notice my communication.—I am, sir,

Your obedient servant,

H. C. BRENCHELEY.

51, Trinity Square, Southwark,
Jan. 14, 1847.

ON THE COMPARATIVE MORTALITY OF CHILDREN AND YOUNG PERSONS IN THE METROPOLIS, AND KENT DISTRICT.

SIR,—It is a common remark, and generally considered correct, that a residence in towns proves more inimical to the health of individuals, but especially of children and young persons, than living in the country. Unquestionably, such an opinion is well founded, when applied to certain localities, in which the inhabitants are crowded together in narrow streets, ill-ventilated apartments, and suffer from poverty or destitution. In reference, however, to the metropolis, if the relative proportion of deaths in children and young persons be compared with those observed in the rural district of Kent, the same result does not invariably follow with regard to several forms of disease; indeed, the facts supplied by the Registrar-General's Report rather lead, on some points, to an opposite conclusion.

In a place like London, where many persons find it difficult to obtain sufficient means of existence, whilst numbers of children and young persons are neglected, or deprived of their natural protectors, it is nevertheless surprising, when visiting the confined alleys and courts of this overgrown metropolis, to observe the crowds of healthy-looking children, dirty though they be, and often having no other covering than rags, running about in places where the sun never shines, and the air they breathe is anything but pure. Undoubtedly, were some of the physical causes of disease removed, or counteracted by improved drainage, the admission of light and air into the un-

healthy dwellings of the poor; and if greater temperance and cleanliness was promoted, with a better supply of food, fuel, water, and clothing, the contrast between the town and country would be much more satisfactory than it now appears, from the data contained in the two following tables, which have been compiled in order to show the comparative mortality of children and young persons in the metropolis and rural districts.

TABLE I.—Deaths in the Metropolis during 1843, (Population, M. 878,767; F. 996,796. Total, 1,875,493).

Total deaths at all ages.	Total deaths under 5 years.	Total deaths above 5 to 15 years.
M. 24,961 F. 23,613 — 48,574	M. 10,993 F. 9,457 — 20,450 or 42·08 per cent.	M. 869 F. 884 — 1,753 or 3·60 per cent.
Phthisis most fatal: the deaths being— M. 3,733 F. 3,371 — 7,104 or 14·62 per cent.	Pneumonia most fatal: the deaths being— M. 1,785 F. 1,481 — 3,266 or 6·72 per cent. Convulsions— M. 1,477 F. 1,162 — 2,639 or 5·45 per cent.	Phthisis most fatal: the deaths being— M. 238 F. 306 — 544 or 1·11 per cent.

TABLE II.—Deaths in the Kent District during 1843, (Population, M. 232,228; F. 236,885. Total, 469,113).

Total deaths at all ages.	Total deaths under 5 years.	Total deaths above 5 to 15 years.
M. 4,313 F. 3,101 — 7,414	M. 1,934 F. 1,040 — 3,574 or 48·20 per cent.	M. 323 F. 310 — 633 or 8·53 per cent.
Phthisis most fatal: the deaths being— M. 726 F. 778 — 1,504 or 20·28 per cent.	Convulsions most fatal: the deaths being— M. 289 F. 236 — 525 or 7·08 per cent. Pneumonia— M. 178 F. 136 — 314 or 4·23 per cent.	Phthisis most fatal: the deaths being— M. 84 F. 123 — 207 or 2·79 per cent.

According to the preceding tables, however large the number of deaths of children under 5 years compared with those at all ages, may have been in London, the proportion at similar ages, in respect of the

total deaths recorded, in the county of Kent, was even greater. In the metropolis, 4·208 per cent. of the whole deaths met with occurred in individuals not 5 years old, whereas, throughout the rural district of

Kent, the relative proportion was upwards of 48 per cent., in the same class of persons. Again, in those approaching, or about the age of puberty, viz. from 5 to 15 years of age, the ratio of deaths from all diseases was upwards of 8½ per cent. in the county of Kent, whereas the relative proportion of fatal cases at the same ages in London was only 3·60 per cent., or under half the previous amount. These facts show, that the mortality among children and young persons, notwithstanding the many causes inimical to health prevalent in the crowded and often destitute population of London, is comparatively lower in respect of the total deaths, than occurs among the inhabitants dying in the country district. Why it is so appears difficult to explain satisfactorily, although the fact is not the less interesting, and should be kept in remembrance by medical practitioners, when recommending the sending of children to the country on account of its greater salubrity.

As might be expected, phthisis occasioned the largest proportion of deaths, not only in the metropolis, but throughout the country district, as well at all periods of life, as in young persons from their 5th to 15th year. It accordingly appears, that 14·62 per cent. of the total deaths, at all ages, recorded in London, arose from consumption; but in Kent, the proportion amounted to 20·28 per cent. The same result respecting phthisis prevailed in both sexes, during early youth, whether inhabiting the town or country, the ratio being 1·11 per cent. in London, and 2·79 per cent. in the rural district, or more than double the amount in relation to the total number of deaths from all diseases.

Another curious feature, exhibited by these tables, is the larger proportion of deaths, in children under 5 years of age, recorded throughout the county of Kent, compared with the number observed in London; nearly half the total deaths, or 48·20 per cent., having occurred in children under that age in the country district, whereas, the relative proportion in the metropolis was 42·08 per cent., notwithstanding the former locality is considered more salubrious. Besides, it is worthy of remark, that the most fatal disease in children, under 5 years of age, inhabiting London, was pneumonia, which carried off 6·72 per cent. of the total deaths recorded at all ages; but in the rural district, convulsions, instead of pneumonia, occupied that position in the scale of mortality, whilst the deaths from convulsions were relatively less numerous in London than in the country. These facts are instructive, and ought to be kept in remembrance by the philanthropist and physician, when endeavouring to alleviate the afflictions inci-

dent to humanity. Another point may be also mentioned, namely, that upwards of a fourth of the whole deaths recorded throughout England and Wales arose from diseases of the respiratory organs, constituting, on an average, about 93,000 annually in a total of 350,000, of which nearly 60,000 were from consumption; whilst convulsions carried off every year from 25 to 26,000 individuals, almost exclusively in infancy. Much might be said on these interesting subjects, but I refrain from continuing the discussion, and would only beg leave now to direct attention to the large number of deaths the above two diseases annually occasion, trusting that in time medical science may be able to diminish the present very high rate of mortality to one of smaller magnitude.

From the tenor of the observations in this and previous communications, the reader must perceive that improper feeding and defective clothing are considered common and very efficient agents in the production of disease, whereby the rate of mortality is augmented, especially in children. Indeed, so much importance is attached to their influence, that if greater attention were paid to such subjects, many children, who are now carried off by convulsions, bowel complaints, and affections of the organs of respiration, would likely pass through infancy and childhood in greater safety and with fewer perils than heretofore. To promote that object, the moral and physical condition of the mother and nurses, to whom the duty is entrusted of rearing the human being just entering into existence, should be attended to carefully, their diet regulated, and their passions and feelings placed under proper control. Again, the infants should live on the nourishment nature intended as much as possible, instead of having their delicate stomachs, which is too frequently the case, offended by substances, both liquid and solid, that would prove injurious even to older individuals. Their clothing, also, although generally not so improper during infancy as it becomes after the period of nursing has passed, is nevertheless often injurious; but the moment a little boy or girl begins to crawl, bare arms, naked legs, uncovered necks, and exposed chests, make their appearance, when affections of the organs of respiration, particularly during inclement weather, prevail more frequently, and prove fatal in much larger proportion. A similar consequence likewise takes place with regard to other diseases, such as typhus, hydrocephalus, measles, and scarlatina, according to the Registrar-General's Report, which is an excellent guide for political economists and medical practitioners to follow in these investigations.

MEDICUS.

January 9th, 1847.

THE CONSTITUTION OF THE COMMITTEE OF
THE HEALTH OF TOWNS' ASSOCIATION.

SIR,—You will extremely oblige an occasional contributor to your valuable journal, and perhaps render benefit to a good cause, by giving insertion to the following communication.

I have just received papers which are being generally distributed amongst the profession, and emanate from a body denominated the Health of Towns' Association.

There cannot be a question regarding the utility of such an institution when in able hands; but I must confess that, on reviewing the names of the parties to whom our labours are to be entrusted, they appear by no means such as I should feel inclined to support. In my opinion, the object of such an institution is to be obtained through those medical practitioners who are attached to public charities, and are in daily contact with a very large number of cases. Of these there are, in London especially, very many, the greater part of whom have laboured, by the careful examination of disease, to contribute towards the progress and advancement of medical knowledge. My proposal, then, is, that the Physicians of the large public charities and others having the superintendence of public bodies, shall form an institution of this kind. If the heads of the profession will come forward, I, and I am sure all others who must be interested in the cause, will readily join, and do our utmost to support it.—I am, sir,

Your obedient servant,
A LEGALLY QUALIFIED SENIOR PHYSICIAN
TO A LARGE PUBLIC CHARITY.

* * The writer of this letter makes a rather severe attack on the constitution of the medical portion of the committee of the Health of Towns' Association, complaining that some of the members are even "unlicensed practitioners." In a list of the committee now before us, we find the names of only six medical men, all of them well known, and to whom the designation used by our correspondent cannot possibly apply. For this reason, that portion of our correspondent's letter in which this charge is contained could not be inserted. At the same time, it appears to us that for a *Health of Towns' Association* a committee composed of fifty-nine persons, among whom there are only six medical practitioners, is but little fitted to fulfil the objects proposed by its appointment; and it is not a little remarkable that, instead of the Presidents of the Royal Colleges of Physicians and Surgeons, and the Master of the Apothecaries' Society, we find in the list representatives and active supporters of homoeopathy, mesmerism, and hydropathy! Lord Robert Grosvenor is President of the English *Homoeopathic*

Association, Lord Morpeth is a patron of the *Mesmeric Infirmary*, and Sir E. L. Bulwer is the great advocate of the "*West sheet,—the true life-preserver!*" We are at a loss to know how this strange combination of advocates of the three great quackeries of the day, can assist in carrying out the objects mentioned in the subjoined paragraph.

"The objects of this Association are to agitate before the public the great question of sanitary reform; to show the fearful amount of mortality and pauperism which result from the absence of medical supervision in our large towns; to diffuse information on the subject of preventive medicine; and to familiarize the public with those authentic observations of science on which every sanitary law must be based."

MODE OF EMPLOYING ETHER VAPOUR IN
SURGICAL OPERATIONS.

SIR,—Having now administered the vapour of ether for the purpose of rendering surgical operations painless in a great number of cases at our metropolitan hospitals, and at my own private residence, with perfect success, by means of an apparatus invented by myself and Dr. Boott, and now manufactured by Mr. Hooper, of Pall Mall, permit me, if not encroaching too much on your valuable columns, briefly to state the appearance of the patient when under the influence of the vapour that indicates the proper time for the operation to commence.

As my own operations on the teeth have now become various and satisfactory to those medical men who daily witness them, I will not occupy the time of your readers by entering into details.—I am, sir,

Your obedient servant,
JAMES ROBINSON.
7, Gower Street, Bedford Square,
Jan. 16, 1847.

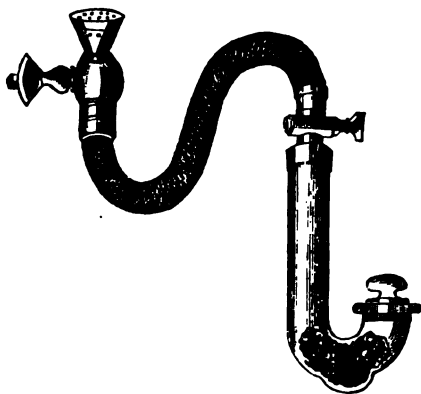
At the commencement of the inhalation, always allow the patient to inhale the vapour three or four times without closing the nose; the nose being closed, observe carefully the appearance of the eye, the pupils of which will be found in most cases, after about a minute's inhalation, to be considerably dilated; after eight or ten more inhalations, the pupil will remain stationary and fixed for a period varying from two to three seconds; it will then turn towards the upper eyelid; this motion will be repeated several times. If the vapour be continued, the pupil will be observed to turn under the eyelid, and remain fixed; three or four inhalations more, and the operator can commence.

In operations which are protracted, and require any length of time, cut off the vapour by means of the stop-cock attached to the apparatus; permit the patient to breathe

the atmosphere through his nose five or six times; again let on the vapour—breathing alternately atmospheric air and the vapour of ether, at intervals of half a minute, until within two or three minutes of the completion of the operation, when the pipe, &c. can be removed with perfect safety as to the result.

APPARATUS FOR THE RESPIRATION OF ETHER VAPOUR.

SIR,—I have used the vapour of ether in seventy cases for procuring insensibility to pain during the extraction of teeth, with the various apparatus recommended for that purpose, and kindly supplied by Mr. Ferguson, Instrument-maker to the Hospital. I can bear testimony to their general efficiency in all cases where the vapour has been properly inhaled. As my experience increased, I could not but observe the inconvenient size and costliness of the various apparatus, coupled with the expense of preparing them for use; and, as economy and convenience must be considered in that which will become general, my thoughts were directed, like those of many others, to the production of an apparatus which would at once combine simplicity with utility; and, as Hookahs have been chosen as the fashionable shapes, so mine bears some resemblance to a German pipe. I have sketched it below. The pipe is of glass, and mounted at the top with a brass cap and stop-cock, into which an elastic tube is screwed of 16 inches in length, which is surmounted by a double-valved mouth-piece of the description in ordinary use, a steel compress, padded, being used for securing the nostrils. It has been hinted to me that a valve made of some fine tissue, and secured to the top of the mouth-cap, would be an improvement on the compress in general use, as many patients dislike their noses being secured by such an instrument.



As much ether may be poured into the pipe as will fill the well and saturate the sponges. The mouth-piece should be placed between the patient's teeth, the stopper should be removed, and the stop-cock turned on, when the patient should be directed to inhale in a natural way. The operator will derive a great advantage in the use of this apparatus, as he will perceive the rising of the fluid in the tube as the air passes in at each inhalation,—a means which will greatly aid his judgment as to the probable effect of the vapour on the patient's system. I have performed more than 20 operations with this apparatus, making in the whole above 90 cases, and I can with safety affirm that this has answered better than any other I have used.

It was again tried in an operation (likely, from its character, to be a protracted one) performed here by Mr. Skey on Saturday, the 16th. A boy, aged 10 years, met with an accident five weeks since, by which he ruptured his urethra: it was followed by an abscess and almost entire closure of the canal. Mr. Skey, after some difficulty, succeeded in perfecting the communication of the separated portions of the tube. The operation occupied 25 minutes, during the whole of which time the patient was insensible to pain. I need scarcely observe that he inhaled the vapour at intervals during the whole time, and, before being taken out of the theatre, exclaimed, to the question—"Have you suffered pain?"—"No; he put something into my mouth, which sent me to sleep." I may here add that the patient is doing well.—I remain, sir,

Your obedient servant,

S. J. TRACY.

St. Bartholomew's Hospital,
Jan. 18, 1847.

N.B.—The apparatus described was manufactured by Mr. D. Ferguson, Instrument-maker to St. Bartholomew's Hospital.

Medical Intelligence.

ST. BARTHOLOMEW'S HOSPITAL.

MR. VINCENT has resigned the office of Surgeon to St. Bartholomew's Hospital. Mr. Paget, Mr. M'Whinnie, and Mr. W. Pennington, have already announced themselves as candidates for the office of Assistant-Surgeon.

ETHER VAPOUR APPARATUS.

THE invention of an ingenious apparatus, which has been employed at all the metropolitan hospitals, for the respiration of ether, is generally, and we believe with propriety, ascribed to Mr. Robinson, of Gower Street.

It is so constructed that the air expired by the patient cannot be returned into the vessel, but escapes by a valvular opening. The English agent for the patentees of the process, finding that probably he cannot legally prevent the respiration of the vapour of ether, now lays claim to this apparatus, which he calls the "*Patent Lethæic Apparatus*," — the ancient mythological river Lethe being drawn in to supply a mystical name! He has issued a prohibition against its manufacture or use. This question regarding the means of inhaling the "Lethæ" vapour is therefore likely to come before a Court of Law; and we trust the inquiry may end in proving that the patentees have as little right to the apparatus as they have to the vapour.

Although we think nothing can justify the patenting of this process, we understand that Dr. Jackson, the inventor, was compelled, in self-defence, to take out a patent, as Dr. Morton, to whom he had communicated his secret, had threatened to anticipate him.

SURGICAL OPERATIONS WITH THE VAPOUR OF ETHER AT ST. GEORGE'S HOSPITAL.

THERE was a large concourse of spectators at St. George's Hospital on the 14th inst. to witness the administration of sulphuric ether to some persons who were to be subjected to surgical operations. The first patient who was placed upon the table appeared to be a weakly lad of 19 or 20 years of age, labouring under disease of the great toe. He was under the care of Mr. Cæsar Hawkins, who was prepared to remove the part, if the boy could be reduced to a state of insensibility. All attempts, however, to induce him to inhale the ether were fruitless. What with fright, and what with coughing, he always stopped before a sufficient effect could be obtained. He was removed, without any surgical operation being had recourse to. The second person who was brought in was a robust young man, a patient of Mr. Cutler's, with a diseased finger. He set about the inhalation *con amore*, and carried it on, with some persuasion and an occasional struggle to abandon it, for ten minutes at the least. He appeared to suffer a good deal from it, turning very red, or rather purple, in the face, and resisting at times somewhat violently. The effect on the bystanders was anything but favourable, several declaring that the ether was as bad as the operation, or worse. At last, the seeming insensibility and concurrent circumstances warranting a resort to the knife, Mr. Cutler proceeded to remove the finger. The patient was at once restored to his senses, and shouted so loudly, and snatched his hand from the operator so vigorously, as to leave no doubt that he suffered pain as acutely as if no steps had

been taken to deaden it. This case, then, was a total failure*. The third and last patient was a young man of powerful frame, who laboured under disease of the ankle-joint. He was a patient of Mr. Henry James Johnson, who exhorted him earnestly to inspire the ether until he felt its full effect. The poor fellow followed the advice implicitly; and, in three or four minutes, insensibility having taken place, Mr. Johnson at once performed amputation below the knee. The operation was executed with such rapidity that in less than a minute the limb was off. The patient regained his senses while the saw was being applied to the bones, when he remarked that he felt the instrument. During the cutting of the skin and muscles he did not evince the slightest consciousness of pain, and altogether the case was very satisfactory.—*Times*.

PAINLESS OPERATIONS AT THE LONDON HOSPITAL.

ON the same day, an Irishman was brought into the London Hospital with a compound fracture and dislocation of the tarsal bones of the foot. The man, after considerable reluctance, at last consented to amputation of the leg, provided the pain was in some way diminished. The vapour of ether was had recourse to, and applied in the presence of Dr. Pereira, and a numerous assembly of medical gentlemen. In five minutes the inhalation proved successful, and in less than another the leg was amputated by Mr. Adams, the patient during the time giving sly winks and facetious nods to those surrounding him. During the intervals of the inhalation his observations were of the most facetious character, forcing from the bystanders involuntary laughter, and converting that which was to the poor fellow a most tragic event into a scene little short of a farce. Upon removing the ether he called out, "Hold hard there a bit, let's have another go at the grog," which he drew in with the greatest avidity. Not for one moment during the operation did he exhibit the slightest symptoms of pain, but, on the contrary, his countenance was expressive of the greatest hilarity; and at the conclusion of the operation, after the effects of the ether had passed off, he could scarcely believe that his leg had been so painlessly removed. His ideas whilst under the influence of the vapour were similar to those of a person enjoying a pleasant dream.—*Times*.

CAUSE OF DEATH IN NEW-BORN CHILDREN.

DR. KING, of Sackville Street, has just submitted to the Medico-Chirurgical So-

* The ether employed should be washed ether, rectified by distillation. The presence of alcohol which is contained in common ether may materially affect its properties.

ciety, an essay "On the Cause of Death of Infants preternaturally Still-born," wherein he insists that death is not from asphyxia, as hitherto supposed, but from syncope; and proposes an entirely new practice, by which means a large majority of infants preternaturally (head last) born may be saved.

REPORT OF THE ROYAL INFIRMARY FOR CHILDREN, 1846.

DURING the past twelve months 5585 children have been admitted as patients, on the application of their parents or friends, *without any recommendatory letter*. Of these children 4982 have come under the care of the Physicians or Surgeons, and, in addition to receiving advice and medicine at the Institution, all whose dwellings were not too distant, and the nature or severity of whose ailments appeared to require it, have been visited at their homes. The remaining 603 children were brought to the Infirmary, on account of various diseases or irregularities of the teeth, which are attended to twice a week by the Surgeon-Dentist.

Of the Tables, one is intended to show the Age, Sex, and Disease of 4082 patients, of whose cases an accurate record was kept; and the other to display the comparative prevalence during each month of the year of those diseases which assumed an epidemic character. The Medical Committee hope that at a time when the sanatory condition of the population deservedly engages so much attention, these Tables, which, in future years, they expect to be enabled to publish in a more complete form, will be found not without value to the enlightened philanthropist.*

The ascertained mortality among the children, which amounts to only 159; or not above 3.1 per cent. of all the patients admitted under the care of the Physicians or Surgeons, must be regarded as representing but very imperfectly the mortality that actually prevails, and, consequently, as affording no criterion whereby to judge of the necessity for an Institution such as the Infirmary for Children; since, while many of the patients whose cases require the most careful treatment are unable to be brought regularly to the Infirmary, they often live far beyond the wide limits to which the system of domiciliary visitation extends. It is not, however, solely on the high rate of mortality in infancy that the Medical Committee desire to insist in proof of the want of an Institution such as the Children's Infirmary: nor is its diminution their only object. There are many diseases incidental to childhood, which, though they do not directly tend to shorten life, yet render that life one of suffering. A glance at the Tables

will shew how many children have been brought to the Infirmary during the past year, for relief from ailments which, if uncured, would conduct through a sickly infancy to a feeble manhood.*

January, 1847.

HOSPITAL FOR CONSUMPTION AT BROMPTON.

If we may judge from the splendid building just erected at Brompton to accommodate the patients, this new charity must be in a very flourishing condition. We are informed that those who have the management of its concerns have introduced some novel regulations respecting the election of the medical officers, and the tenure of office, which are quite new in this country.

By the rules of the new institution at Brompton, the physicians can only retain office for *fifteen* years, and the assistant-physicians for *ten*. The latter are elected by the *committee*, and not by the governors. When a vacancy occurs in the office of physician, the number of candidates is to be reduced to *two* by the committee, and none other are allowed to canvass the electors. In the case of assistant-physicians, in addition to the presentation of the ordinary testimonials, all the candidates are subjected to a practical examination in auscultation on one or more patients in the hospital, in the presence of the consulting physicians, and the report by them of competency in this department of diagnosis is an essential preliminary to the admission of any candidate to the right of canvassing the electors. The first election for an assistant-physician under the new rules took place on the 14th inst., on which occasion Dr. Cursham, the Secretary of the Medico-Chirurgical Society, was the successful candidate. We understand that three other physicians besides Dr. Cursham submitted to the partial *concours* above mentioned in the wards of the hospital,

* That the knowledge of the treatment of infantile disease is but imperfectly understood, may be inferred from the high rate of mortality amongst children, and also from the beneficial effect produced wherever attention has been paid to this important branch of medical science. Even now, in the Nineteenth Century, One Child in Five dies in the first year after birth, and One in Three before the end of the fifth year, whereas in Geneva, where some time back the mortality was one in 38 in the first year, it is now reduced to one in 64. Many facts might be stated to show the improvement which has already taken place in the general management, as well as in the medical treatment of children; but each fact impresses more and more strongly upon the mind of every reflecting person how much is yet to be done, and must also satisfy every intelligent inquirer, that, in a great metropolis like London, there ought to be an Institution for the treatment and study of the Diseases of Children in every stage—diseases unknown or rare in adult age, and causing a mortality, the possibility of lessening which cannot fail to secure ample support to this Charity.—Address.

* Copies of the Tables referred to have not reached us.

and *all* the candidates were reported by the consulting physicians not only as *competent*, but as evincing a thorough and most satisfactory acquaintance with the subjects of examination.

THE PROVINCIAL MEDICAL JOURNAL.

THE Council of the Provincial Medical and Surgical Association have resolved on adopting the recommendations of the Committee appointed to consider the publications of the Association, and the Provincial Medical Journal is henceforth to be published once a fortnight, and to be doubled in size. We are glad to find that the proposition to abolish entirely this publication met with no support. We regard this journal as a very proper medium for the publication of cases which occur to provincial practitioners, who might not be otherwise disposed to become contributors to the London weekly periodicals, while they have an interest in the support of a journal of their own. It would be creditable to the profession in this country if all medical periodicals were conducted in the quiet and gentlemanly spirit which has for some time characterized our provincial contemporary. Fair and honest labour has been bestowed upon it, and its columns have been, so far as our observation extends, invariably closed against anonymous attacks on professional men. This is no mean praise at the present time, in which attempts are so frequently made to set one part of the profession in open hostility to another.

A MEMORIAL

Presented to the Right Hon. Sir George Grey, Bart., M.P., Her Majesty's Principal Secretary of State for the Home Department, by the Royal College of Physicians of London, August 8, 1846.

THE President and Fellows of the Royal College of Physicians are induced respectfully to address Sir George Grey, as Her Majesty's Secretary of State for the Home Department, because they are unable, without the aid of the Legislature, to complete certain changes in their constitution which appear to be called for by the state of the Profession and of society, and which they have long contemplated and desired to carry into effect.

The College is bound by its charter of incorporation, granted by Henry VIII., and subsequently confirmed by Act of Parliament, to examine and to license, if found competent, all persons who desire to practise as Physicians in London and within seven miles thereof. But the office of examining persons who wish to practise in London was given by the Charter, and the Charter, but to a small

body composed of eight of its members, termed Elects. The Elects not having been chosen, even at first, by the members at large, are endowed with separate functions, which they exercise independently of the College, the constitution of their Body being such, that all vacancies occurring in it are required to be filled up by the survivors.

As might be expected, inconveniences have arisen from this divided jurisdiction. And it is worthy of observation, that amongst all the grievances complained of in the Petitions for Medical Reform which were presented at one time, in great number, to Parliament, none were complained of more than the existence of local and exclusive jurisdictions; and the exercise, by numerous independent Bodies, of the power of examining and licensing Medical Practitioners. The latter circumstance, it was alleged, had caused a want of uniformity in the education and qualifications of Practitioners passing under the same denomination; and from the former circumstance it has resulted, that Licenses valid in one part of the country are invalid in another,—a restriction which proves most detrimental to the good of the profession, and even leads frequently to an infringement of the laws.

Of late years it has happened that the demand by Physicians for Licenses to practise in the country (termed Extra-Licenses), which was formerly small, has been greatly increased: hence the evils and inconvenience of the Licenses emanating from the College being divided into two kinds, and of their being granted by separate Bodies, have become strikingly manifest, and have given rise to complaints, and caused disputes and dissensions in various parts of the country.

Moreover the Act of Parliament, already referred to, has also given to the Elects the function of choosing annually one of themselves to be the President of the College. It has been thought that this part of the constitution of the College is susceptible of improvement; for that the choice of the President ought not to be deputed to so small a body, which is neither elected by the Fellows at large, nor under their control.

For the reasons which have been stated, the College is desirous that a short Act of Parliament should be passed, enabling it to accept a Charter modifying its former Charter, as regards the Elects, and transferring their functions to the general Corporation. An Act for this purpose was in fact prepared, with the sanction and co-operation of the late Government, and laid before Parliament. But it proceeded no further, because it was introduced in conjunction with other measures affecting the Profession more widely, which were subsequently abandoned.

There are other improvements, lying more

within its own power, to which the College has of late years directed its earnest attention.

In particular, it has extended, and greatly improved the examinations of those whom it licenses to practise as Physicians.

With respect to those who are admitted as Fellows or Members of the Corporation during very nearly two centuries, they were required, by the Bye-Laws of the College, almost exclusively, to have been educated at the English Universities; so that by long prescription the Graduates of Oxford and Cambridge were admitted nearly as a matter of course into the order of Fellows; and, beside them, few indeed either were, or could be elected.

The object of this regulation was to ensure in the Fellows of the College the best and highest education. And it had, confessedly, the effect of raising highly the character of the College; and, through its influence, that of all orders of the Profession in this country.

Nevertheless the exclusiveness of the rule excited jealousy and discontent, and became a cause of frequent litigation, until, by repeated decisions of the Courts of Law, the right of the College to be the sole judge of the qualifications of those whom it would elect as Fellows had been established beyond dispute.

In the present century, a high standard of education being adopted more generally, the restriction in favour of the Universities of Oxford and Cambridge, which had been enforced so long by the College, became proportionately less requisite and proper.

Wherefore the College, although still retaining a conviction of the superior advantages to be derived from an education in those Universities with which it has been so long connected, has, nevertheless, rescinded its exclusive Bye-Laws.

For several years the Fellows have been selected out of the Order of Licentiates; solely from regard to their character and attainments, and without distinction as to the place of their education.

To a considerable extent this plan has proved satisfactory to the profession. Yet a system of selection is attended always with some invidiousness. Therefore the College has resolved to adopt another principle in the admission of Fellows, not liable to the foregoing objections, which will be perfectly equitable in its operation, and most honorable to those who avail themselves of it: viz., that the ordinary mode of admission to the Fellowship shall be through an examination, high in character, comprehensive in extent, and open to all Licentiates who may submit themselves voluntarily to it. Whilst, at the same time, a limited power shall be preserved to the College of admitting as Fellows, without examination, those persons who may

have greatly distinguished themselves by scientific pursuits and discoveries; who, not having enjoyed the advantage of the best early education, may have made up this deficiency by superior talents and energy, but whose age may be such, as well as their known attainments, that they ought to be exempted from the examination intended for younger men.

As far as the College is concerned, the changes and improvements which have been mentioned might have been effected earlier, had they not been retarded by circumstances over which the College could have no control. An outline of the Reforms contemplated by the College was submitted to the Marquis of Normanby when Secretary of State, and was favourably entertained by his Lordship. A change, however, in the Government followed soon afterwards, and delayed further progress.

The subject of these Reforms was repeatedly brought under the consideration of Sir James Graham, and they met with his approval; but it seemed to him expedient that they should be brought forward simultaneously with the general measures which he contemplated for the regulation of the whole Medical Profession.

In consequence of the desire then expressed by the Government, the College proceeded, with the assistance of its own legal advisers and those of the Crown, and with considerable pains and expense, to prepare the Draft of a new Charter, modifying its former Charter in the way which has been already explained.

The title of the College of Physicians of London was to be changed by the new Charter to that of the "Royal College of Physicians of England;" and, by one of its clauses, the College offered, for one year, after its acceptance, to admit as Members, without examination, all Graduates of British Universities of a certain standing, now practising throughout England and Wales.

A conciliatory measure of this kind appears to be much required in the present state of the Medical Profession; for there are many Physicians practising in England, not being Graduates of Oxford or Cambridge, who yet are not, as legally they ought to be, possessed of a License from the College of Physicians of London.

Therefore the College propose this measure as the commencement of a more regular and effective system, and in order that it might, more perfectly than is possible at present, represent and regulate the interests of all Physicians in this country.

The College will be ready to abide by the offer and concession which it then thought right to make, provided means can be devised whereby all Physicians practising in

and all the candidates were reported by the consulting physicians not only as *competent*, but as evincing a thorough and most satisfactory acquaintance with the subjects of examination.

THE PROVINCIAL MEDICAL JOURNAL.

THE Council of the Provincial Medical and Surgical Association have resolved on adopting the recommendations of the Committee appointed to consider the publications of the Association, and the Provincial Medical Journal is henceforth to be published once a fortnight, and to be doubled in size. We are glad to find that the proposition to abolish entirely this publication met with no support. We regard this journal as a very proper medium for the publication of cases which occur to provincial practitioners, who might not be otherwise disposed to become contributors to the London weekly periodicals, while they have an interest in the support of a journal of their own. It would be creditable to the profession in this country if all medical periodicals were conducted in the quiet and gentlemanly spirit which has for some time characterized our provincial contemporary. Fair and honest labour has been bestowed upon it, and its columns have been, so far as our observation extends, invariably closed against anonymous attacks on professional men. This is no mean praise at the present time, in which attempts are so frequently made to set one part of the profession in open hostility to another.

A MEMORIAL

Presented to the Right Hon. Sir George Grey, Bart., M.P., Her Majesty's Principal Secretary of State for the Home Department, by the Royal College of Physicians of London, August 8, 1846.

THE President and Fellows of the Royal College of Physicians are induced respectfully to address Sir George Grey, as Her Majesty's Secretary of State for the Home Department, because they are unable, without the aid of the Legislature, to complete certain changes in their constitution which appear to be called for by the state of the Profession and of society, and which they have long contemplated and desired to carry into effect.

The College is bound by its charter of incorporation, granted by Henry VIII., and subsequently confirmed by Act of Parliament, to examine and to license, if found competent, all persons who desire to practise as Physicians in London and within seven miles round. But the office of examining and licensing those who wish to practise beyond seven miles from London, and who

body composed of eight of its members, termed Elects. The Elects not having been chosen, even at first, by the members at large, are endowed with separate functions, which they exercise independently of the College, the constitution of their Body being such, that all vacancies occurring in it are required to be filled up by the survivors.

As might be expected, inconveniences have arisen from this divided jurisdiction. And it is worthy of observation, that amongst all the grievances complained of in the Petitions for Medical Reform which were presented at one time, in great number, to Parliament, none were complained of more than the existence of local and exclusive jurisdictions; and the exercise, by numerous independent Bodies, of the power of examining and licensing Medical Practitioners. The latter circumstance, it was alleged, had caused a want of uniformity in the education and qualifications of Practitioners passing under the same denomination; and from the former circumstance it has resulted that Licenses valid in one part of the country are invalid in another,—a restriction which proves most detrimental to the good of the profession, and even leads frequently to an infringement of the laws.

Of late years it has happened that the demand by Physicians for Licenses to practise in the country (termed Extra-Licenses) which was formerly small, has been greatly increased: hence the evils and inconvenience of the Licenses emanating from the College being divided into two kinds, and their being granted by separate Bodies, have become strikingly manifest, and have given rise to complaints, and caused disputes of a dissensions in various parts of the country.

Moreover the Act of Parliament, alluded to, has also given to the Elects the function of choosing annually one of themselves to be the President of the College. It has been thought that this part of the constitution of the College is an obstacle to our improvement; for that the choice of the President ought not to be deposited in a small body, which is neither elected by the Fellows at large, nor representative of the College.

For the reasons which have been stated, or the College is desirous that the Legislature should accept a Charter, which should give the College the power of electing their President, and of choosing their Council, and of appointing their Officers, and of regulating their functions.

facts in the history of the College, which we have satisfied ourselves are more or less generally felt. We are, Dr. Williams, and the public

interests, not only of our city, but of our State and of our country, have been advanced.

If the advantages, which this discovery now promises, should be but in part realized, (for we see and know that it is not about to do all the good which ardent minds anticipate as we shall presently show), it will still be, beyond doubt, a blessing to mankind, and we shall feel that he has given to the world a boon, which, ethereal though it be, will outweigh all the treasures he has brought to light from the deep and teeming bowels of the earth. And the blessed result of that single thought, which has applied his discovery to the practice of operative surgery, will be remembered with gratitude by tens of thousands, when all his achievements in the mine and the laboratory shall be in a measure forgotten and lost in the voluminous records of similar labours.

But we have not tested the effects of the inhalation of ether sufficiently to pass an unqualified decision in favour of its use; for although it promises great and most happy results, it is not without deleterious effects. Although we have been desirous to use it, and have been determined to do so, as we should become satisfied of its utility, still we know the power of the agent, and we know that in many instances its operation would be uncontrollable. We have not felt warranted in using it without great caution in regard to the age, temperament, health, and habits of our patients.

A fair trial of it has hardly been commenced. There have been some half dozen experiments with it at the Massachusetts General Hospital; perhaps as many more in the private practice of the Surgeons of that Institution. Some of these we have seen, and also some of the cases which have occurred at Mr. Morton's room, where some of us have attended by invitation, and at the request of our friends, who wished to be subjects of the experiment at his hands.

From these sources, and from some patients whom we have visited since they have left his operating room, we have made up the following opinion, and present the following unfavourable cases. Several favourable ones are widely spread before the public, and we are satisfied of their correctness.

The symptoms manifested by the presence of this agent are striking, remarkable, sometimes alarming. Inhaling its fumes but a few minutes, induces, in some persons, agitation of the system, violent coughing, determination of blood to the brain and the eyes, dilatation of the pupils and distortion of the features; followed by general prostration, laborious breathing, anxiety, sighing, groaning, fright and delirium.

It must, therefore, be apparent that the drug in question is possessed of energies

peculiarly *potent*, and for this reason it cannot be doubted that its administration in certain conditions or constitutions, especially where there is a predisposition to apoplexy, to morbid vascular derangement, to sudden impressions or congestion of the sensorium, to diseases of the heart and to all pulmonary or bronchial affections, must, consequently, be in some degree prejudicial to the health and safety of the patient.

In relation, therefore, to its practical utility in our particular branch of surgery, we are inclined to the opinion, that when its operations shall be more thoroughly tested, it may not so entirely meet the public favour as now anticipated by a large majority of those who have only heard reports of its favourable results.

We feel, therefore, that this whole matter, be it of greater or less value in surgical practice, should be in the hands of those only who are in some good degree physiologists and pathologists—of those who have testimonials from some one of our medical colleges, that they are worthy of being trusted with the health and life of their fellow citizens.

A few brief cases will serve to show that we are not unduly cautious in our admonitory remarks.

A young lady, a patient of one of the subscribers, was accompanied by him to Mr. Morton's, as she wished to have the operation performed under the influence of the sulphuric ether.

Before the inhalation, being much excited, her pulse rose to 130. After the inhalation pulse 70, eyes injected, (blood shot) respiration stentorous, slight frothing at the mouth, general appearance like one going into a state of epilepsy. Several minutes elapsed before restoration to natural state, for some time much confused. Several hours after the operation, she said: I felt when the tooth was coming out as if I was having a horrid dream. [She gave a scream during the operation.]

Before the lady was operated upon, a young man submitted to the operation. He appeared to have much suffering, throwing his body almost from his chair, pulse rose to 150 while inhaling, action of the temporal artery very strong. Eyes injected, more than in case of lady, respiration laborious. Every indication of great cerebral excitement.

Miss A. D., aged twenty, slender constitution, nervous temperament, went to Mr. Morton's rooms on Monday, December 7th, took the ether, and had a tooth extracted. She lost consciousness in three or four minutes after inhaling, felt no pain; but when senses returned, felt aching of head and dizziness for a few minutes, and a trembling of the whole frame.

Her friend, Miss J. R., near the same

age, inhaled the ether and had a tooth extracted at same time. She became very much excited, and talked strangely; felt but little pain from the operation. They both left Mr. Morton's rooms together at about 12 o'clock, went to a shop, and while there Miss J. R. was seized with delirium, and was carried home in this state. She remained so, except at short intervals, for three days,—friends afraid to leave her. She complained of sickness and distress of stomach.

Miss A. D. became delirious about an hour after they got home. This lasted all night. On Tuesday morning she raised blood from the lungs, it was supposed about a pint; bleeding soon ceased, but she was ill and much dejected on Wednesday evening.

We have authentic accounts of other similar cases, more or less grave in their character, but the above are sufficient. Names are withheld, at the request of the individuals.

We have not felt authorized to suppress these details, while our object has been to present the truth. Yet we would state distinctly, that we do not know of any permanently serious effects of the ethereal vapour, which ought to prevent its use in severe surgical cases, where the operators shall deem it advisable to apply it.

In order then to have this important matter fairly investigated, and brought before the medical world and the public as it deserves to be, we would propose that, as is done in similar cases by the learned societies in Europe, the whole subject should be entrusted to a competent committee appointed by the Massachusetts Medical Society, or if it can be done more conveniently and expeditiously, by the Boston Association of Physicians and Surgeons, who shall collect information from all sources which can be relied upon, and after they shall have made a full and scientific investigation of the matter, report at such times, and in such a manner, as they shall deem proper.

But there is a dark side to this subject which we would gladly have been spared from presenting, and which, if allowed to remain, will throw a shade over all the truths which are yet to be learned concerning it. This discovery is one of interest to the whole civilized world. It may be applicable to the wants of millions of sufferers, and should be a free offering to those who can be relieved by it.

Yet how is this thing as it now stands before the public? It has, to be sure, been introduced, in a manner which we do not clearly understand, to the free use of the surgeons of the Massachusetts General Hospital, for the benefit of that institution; but from all else, an attempt is made to shroud it by secrecy—by the mottled mantle of "ethereal compound" and "anodyne vapour," and to exclude it by what we believe,

from abundant legal authority, to be an unwarrantable and invalid patent. All this aim at exclusiveness we deprecate as unworthy of all regular and honourable physicians, surgeons and dentists; and we will not in any way give countenance to efforts for depriving the unfortunate and suffering portion of our fellow beings, from the full and free advantage of that which appears to us to be their inherent right.

Though it might have been a pecuniary benefit to each and all of us to have complied with the exorbitant and otherwise unreasonable demands, which we are informed have been made for the right to use the vapour of ether by the "proprietor" of the said patent, we heartily protest against holding the right to use it on such tenure, or as a secret medicine. And we have good reason for saying that we believe, relying on the well known character of Dr. Jackson, that from whatever cause his name has appeared in the specification for a patent, it could not have been in conformity with his own original design, nor in accordance with his own noble and generous feelings as always heretofore manifested, to keep the discovery a secret, or exclude it from free and general use.

But, the question is asked, should there not be secured to the discoverer some reward or compensation? We answer yes; and if our hope shall be in any considerable degree realized in the benefit of the discovery to mankind, the consciousness of having made it will be reward enough for any true philanthropic spirit; and if a more substantial recompense shall be due, there is a high, honourable, and generous way for the public to do it, that will be of more value than all the patents in the world.

In the case before us, is there any new invention, or manufacture of instrument or apparatus by which the ether is administered? No; for we have seen an attested copy of the specification furnished from the Patent Office at Washington. The apparatus used by Mr. Morton, (and now, as we learn, by many others who dare to use the long known manufactured article—pure sulphuric ether,) as contrived and manufactured by an ingenious philosophical instrument maker, Mr. N. B. Chamberlain, in School street, and we have his certificate to this effect.

We now close by saying, that we have presented this subject in the manner above expressed, in reply to the numerous questions and demands of our fellow citizens who desire to know what they have a right to know about it; and we have endeavoured to discharge the duty which our position requires, by assuming them. If we have succeeded in this attempt to advance the cause of science and truth, we shall be content.

(Signed) J. F. Flagg; Joshua Tucker; Thos.

Gray, jun.; D.M. Parker; E.G. Tucker;
Francis Dana; A. L. Weymouth, W.
W. Codman; E. G. Kelley; C. F.
Barnard; C. Eastham; J. Clough.

Selections from Journals.

PATHOLOGY.

**SARCOMATOUS ENLARGEMENT OF THE
SCROTUM REMOVED BY OPERATION. BY
DR. M'COLLOCH, OF MONTREAL.**

LOUIS BENOTT, æt. 60, a strong, healthy French Canadian farmer, consulted me in the summer of 1840, for a very large tumor of the scrotum, which had existed for three or four years, and was of late increasing so rapidly, that he stated it had doubled its size within the last six months. The tumor extended to within a few inches of his knees; it was somewhat irregular upon its surface, but without any discoloration of the integuments; it obliged the patient, from its weight and bulk, to stoop forward when walking, and to keep his thighs widely separated. The parts of generation were completely buried in the morbid growth, no trace of the penis or testes being visible, and the urine escaped from an opening (resembling the umbilicus) in the superior and anterior part of the tumor. As the great magnitude of the tumor precluded any prospect of a cure by absorption, and the freedom from pain, and from discoloration of the investing integument, indicated the absence of malignant degeneration, the patient's general health also being exceedingly good, the operation of excision was proposed and executed (with the assistance of my friend Dr. G. W. Campbell), in the following manner. It being of great importance to endeavour to preserve the sexual organs, imbedded in the tumor, a straight sound, after frequent unsuccessful attempts, was at length introduced into the urethra, to serve as a guide in the subsequent dissection. An incision was then made on either side of the sound, toward the pubis, at the distance necessary to preserve a sufficiency of integument to cover the penis; these incisions were carried round the root of the tumor, and connected together upon its posterior part, leaving lateral flaps to afford a covering for the testes. The penis was in the first place dissected out of its bed in the tumor; the testicles were then looked for, and the situation of each being discovered by following the cord, it was carefully isolated, and committed to an assistant. The dissection was then rapidly continued until the morbid mass was completely detached. About two pounds of blood were lost during the operation, and eleven or twelve arteries required ligature. The generative organs were enveloped in the integuments preserved for that purpose,

which were maintained in apposition by a number of interrupted sutures. The patient, although extremely exhausted during the operation, rallied very speedily; the wound closed nearly throughout its whole extent by primary union, and at the end of three weeks was completely cicatrized. The tumor weighed upwards of nine pounds avoirdupois, and appeared to consist principally of hypertrophied and condensed cellular substance. Two years have now elapsed since the operation was performed; my patient has continued in good health, and his young spouse (by a second marriage) has cheered his old age by presenting him with more than one living proof of his still possessing unimpaired all the functions of the generative organs.—*Dublin Med. Press.*

THERAPEUTICS.

**MODUS OPERANDI OF NITRE, TARTAR
EMETIC, AND OTHER REMEDIES, IN THO-
RACIC INFLAMMATION. BY DR. ZIM-
MERMANN.**

If the congestion of the lungs is not recent—if effusion have taken place with morbid changes in the blood, in the capillaries, and the organs themselves—bleeding is of secondary value, and other remedies must be adopted. Nitre and tartar emetic are the most generally and successfully adopted in Germany. The results of experiments show that the action of nitre on blood out of the body is to prevent its coagulation, to diminish the tendency of the blood-vesicles to unite, and to contract the membrane of the latter. Its chemical relations to fibrine as a solvent have been established. When taken into the stomach, it is absorbed into the circulation, and excites both the capillaries and blood-vesicles to contract. It hinders the tendency of the fibrine to coagulate, and by rendering the effused plasma more soluble promotes its absorption. It also renders the absorption of oxygen into the blood more active, and so facilitates the decomposition of the "pseudo-plasma," and its excretion by the kidneys and skin, in the form of urate of ammonia, &c. Dr. Zimmermann instituted an experimental inquiry into the comportment of tartar emetic towards the blood when out of the body, and found that two grains added to one thousand of blood rendered the coagulation imperfect; and six grains caused the blood of a patient having the buffy coat to coagulate into a jelly-like mass, without any buff: unlike nitre, it rendered the fibrine less disposed to decompose, and seemed to form with it rather an insoluble chemical compound. Unlike nitre also in its action on the blood-vesicles, it rendered them less contractile,—these, when examined under the microscope, appearing large and expanded, the membrane being

relaxed, and permitting the colouring matter to permeate it. Its *modus operandi* is therefore opposite to that of nitrate of potass; yet Dr. Zimmermann hesitates not to recommend them in combination. He is of opinion that the administration of tartar emetic alone, without bleeding, in extensive pneumonia and pleuritis, is dangerous.

The action of Acetate of Lead and Opium in Pneumonia.—Dr. Zimmermann says the great success of this combination (administered without bleeding) has been testified by so many and so high authorities, that there can be no doubt of its value as a remedy in pneumonia. He thinks the *modus operandi* of lead consists in its exciting action on the living fibre, and in its influence in arresting the progressive metamorphosis. His remarks amount, however, simply to this, that it is a good empirical remedy, is preferred by many to calomel, antimony, and the lancet, but that its *modus operandi* is unknown. He gives no account of calomel as a remedy, although he administers it freely in practice: this is an important omission.”

—*British and Foreign Medical Review.*

[We have quoted the above remarks, because they are ingenious, and afford materials for thought, rather than from a belief that they are of much practical value. There can be little doubt that the cultivation of the science of organic chemistry will ultimately lead to greatly enlarged views in the treatment of constitutional diseases; but the data at present gained with regard to morbid states of the fluids are certainly not sufficiently ample to admit of being rendered the indications of any extended therapeutic plans.]

BIRTHS AND DEATHS IN THE METROPOLIS

During the week ending Saturday, Jan. 9.

BIRTHS.		DEATHS.		Aver. of 5 yrs.	
Males....	660	Males....	664	Males....	543
Females..	667	Females..	723	Females..	526
	1347		1386		1068

CAUSES OF DEATH.			Winter av.
ALL CAUSES	1386		1068
SPECIFIED CAUSES	1381		
1. Zymotic (or Epidemic, Endemic, Contagious) Diseases ..	164		183
<i>Sporadic Diseases, viz.—</i>			
2. Dropsy, Cancer, &c. of uncertain seat	94		112
3. Brain, Spinal Marrow, Nerves, and Senses	193		170
4. Lungs and other Organs of Respiration	611		354
5. Heart and Bloodvessels	67		32
6. Stomach, Liver, and other Organs of Digestion	90		70
7. Diseases of the Kidneys, &c.	19		8
8. Childbirth, Diseases of the Uterus, &c.	17		12
9. Rheumatism, Diseases of the Bones, Joints, &c.	13		7
10. Skin, Cellular Tissue, &c.	4		2
11. Old Age	91		81
12. Violence, Privation, Cold, and Intemperance	19		20

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	3	Convulsion	58
Measles	14	Bronchitis	168
Scarlatina	23	Pneumonia	136
Whooping-cough ..	46	Phthisis	174
Typhus	39	Dis. of Lungs, &c. ..	28
Dropsy	9	Teething	17
Sudden deaths ..	11	Dis. Stomach, &c. ..	5
		Dis. of Liver, &c. ..	17
Hydrocephalus ..	37	Childbirth	13
Apoplexy	19	Dis. of Uterus, &c. ..	3
Paralysis	35		

REMARKS.—The total number of deaths was 318 above the winter average. The deaths from Pulmonary disease still continue very great. In all the districts, the mortality was above the averages.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer	29.9
“ “ Thermometer	37.3
Self-registering do. max. 0° min. 16.3	
“ in the Thames water — 39° — 33°	
a From 12 observations daily. b Sun.	

RAIN, in inches, .18: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 1° above the mean of the month (36.1°).

NOTICES TO CORRESPONDENTS.

We regret that we have been compelled to postpone Dr. Rowland's communication until next week.

Chirurgus.—The letter on the Ether-vapour Patent will be inserted. It reached us too late for the present number.

Mr. Phillips's lecture, with the papers of Dr. Moore, Dr. Coley, and Dr. Binney, will appear in the following number.

As the substance of Dr. Searle's letter on the Inhalation of Ether Vapour has been already published in another medical journal, we beg to decline its insertion in the Medical Gazette. It is left at the office of the Printers, 57, Skinner Street, Snowhill.

Dr. Waller's paper on the Nervous System will be inserted.

The London Medical Directory reached us too late for notice this week.

Mr. Levison's letter on the alleged effects of Camphor on the Teeth has been received, and is under consideration.

I O U.—In our opinion it is not strictly professional.

RECEIVED.—Dr. Snow.—The Western Times.—The Liverpool Standard.

ERRATUM.—At p. 126 of our last number, col. 1, line 1, at the top, an error occurs which entirely destroys the meaning of a passage. Instead of —“that some neutral organic substances do not act upon,” &c. read “do act upon.”

Lectures.

CLINICAL OBSERVATIONS

MADE TO THE STUDENTS OF THE WESTMINSTER HOSPITAL,

BY B. PHILLIPS, F.R.S.
Surgeon to the Institution.

On Urethral affections.

TO-DAY I wish to direct your attention to another class of cases of very common occurrence among the out-patients, — Gonorrhoea.

Although there is great uncertainty as to the number of cases presented here weekly, in some weeks there being not more than three or four new cases, in others three times that number, yet in the course of the session you have opportunities of witnessing the effects of treatment in at least 200 cases. It must therefore necessarily follow that in the course of the year you see most of the complications which occur in this disease.

I know the treatment of outpatients is unsatisfactory, because you have no security as to the use of remedies, or as to the proper observation of the directions which may be given as to regimen and diet; but at the same time they thus approach more nearly to what you will experience in private practice. You cannot fail to observe that there is great variety in the intensity of the symptoms presented; in one case they are very mild, in others very aggravated. This does not depend, I conceive, on any peculiarity in the virus, but mainly upon the constitution and the habits of the patient.

In a very large proportion of cases, we order at once a purgative dose, and we follow it up with a mixture of copaiba and cubeba, and within a month, in most instances, the disease is cured, or, to use a more correct expression, the patient ceases to attend; in some cases, no doubt, before the cure is perfect. You must have observed, however, that there are cases in which we do not begin with copaiba; but among the miserable population which furnishes the bulk of the outpatients here, the instances are few where the intensity of the symptoms constitutes a contraindication to the use of copaiba. There is still no doubt that where the symptoms are severe, it is not prudent to employ at once the copaiba and cubeba, because the mixture will sometimes increase the pain, and occasionally set up active mischief about the neck of the bladder. In such cases, by purging and the avoidance of stimuli you relieve the severity of the symptoms, and when that is done you may have recourse to the remedy we commonly use.

XXXIX.—1000. Jan. 29, 1847.

In a certain number of cases (here we find it about one in ten), although the symptoms have been much mitigated, the discharge does not entirely cease, but a slight oozing, generally without pain, persists indefinitely; and it becomes necessary to have recourse to some other plan of getting rid of it. In another certain number of cases (and here in our experience the number is about one in six), the testicles suffer by the extension of inflammation to them, constituting what is known as *hernia humoralis*, or *orchitis*; or, as it is familiarly termed, "swelled testicle." In a farther number the patient is worried by painful erections at night, known as *chordae*, and in the practice of this place they occur in one case in four. And in some cases the disease having become chronic and persisted long, ends in producing a thickening of the mucous membrane of the urethra, and a consequent narrowing of the canal, so as to constitute *stricture*.

There are other complications, but of less frequent occurrence, and therefore I shall not further refer to them here at present.

The treatment by copaiba or cubeba, or by an association of both, is not, however, the only treatment employed, although we do not often have recourse to any other. If patients could be made to observe absolute abstinence from meat and stimuli, to preserve the horizontal position, and to use diluents and aperients, no doubt that treatment would usually be best for them, but this plan cannot be commonly carried out in practice, and therefore it is that we are driven to other remedies. In my practice here you have not had an opportunity of observing the effects of what the French surgeons call the abortive plan of treatment. When I first became attached to this hospital, we had an enterprising house-surgeon, who tried it largely, and he certainly afforded me an opportunity of making up my mind that the plan was one which a prudent surgeon ought not to follow generally.

The abortive treatment may consist in large bleedings, violent purging, large doses of copaiba, or irritating injections. The first is not generally applicable because of the specific nature of the inflammation; the second is not entitled to much confidence; the third cannot be relied on: it was the fourth plan which was so energetically tried here. The injection used was a solution of nitrate of silver, and the results were great pain, bloody discharges, retention of urine, violent inflammation of the prepuce, and sometimes much trouble in the bladder. And even when the plan succeeded, it sometimes left after it much irritability of the canal.

I think you will admit that the plan we

follow here, though less heroic, is upon the whole very successful. But there are cases, as you are aware, where under the use of internal treatment the discharge has been reduced within very narrow limits, but then obstinately continues in spite of all the means which may be employed through the agency of the stomach. When a discharge is thus reduced by copaiba and cubeba, but there remains stationary, we generally have recourse to direct applications in form of injections. And, whenever all pain in making water has ceased, proper injections may be prudently used, and often with the best effects. They may be made of sulphate of zinc, copper, alum, or iron, muriated tincture or iodide of iron, or, indeed, almost any other astringent, or even nitrate of silver. It is not usually prudent to make the injection potent enough to occasion much pain, or even much heat of the urethra; but short of that they are often advantageous. There are, however, cases so obstinate that a more energetic stimulus is required, and even lunar caustic has been advantageously employed in such cases.

With reference to these discharges—a question, very difficult to answer directly, will often be put to you. When do they cease to be contagious? This is a question I cannot solve for you. I cannot say, with any confidence, that when the discharge has lasted for months and is reduced to very narrow limits, it certainly ceases to be contagious. I have known cases of the kind where, after many months, the discharge was reduced to a single drop, which could be squeezed out in the morning, and yet gonorrhoeal disease has resulted from connection with a healthy person.

If a line must be drawn, you must put on one side of it all cases in which a discharge, however long continued and however trifling in amount, persists continuously after gonorrhoea, and these are always suspicious; on the other, the cases in which, after an apparently complete cessation, the discharge has returned without any new connection. I by no means wish you to understand that I think every chronic urethral discharge from the urethra contagious, but as I can give you no certain rule by which you can distinguish between one that is and one that is not contagious—as there is nothing in the aspect, the consistency, or colour of the discharge, to guide you—you can only come to that general conclusion. It might be safe to say, that when the discharge is limpid, colourless, transparent, more or less adhesive, it is not contagious; but even then I should hesitate.

Certainly *chordee* is a very common and a painful complication, in cases of gonorrhoea. The erections become frequent at night, and are very painful, and the penis itself be-

comes curiously twisted or deformed. It happens in this way,—at the points where the inflammation is intense, probably lymph is thrown out in the spongy tissue; the cells being thus filled, can no longer lend themselves to distension by blood, the extension cannot, therefore, keep pace with that of the corpora cavernosa, and the curvature and pain are the results. Sometimes, under violent erection, the mucous tissue gives way, and occasionally a good deal of blood is lost from the urethra, with more or less complete relief to the symptoms. If this complication comes on in an abstemious person, there are certain plans which may be adopted with some prospect of relief. Bleeding, general or local, blisters near the part, and narcotics. Few people require the abstraction of blood, generally. Many are better for a good number of leeches or cupping glasses to the perineum; but even these things are not often necessary, and the use of leeches is not without inconvenience. Narcotics and antispasmodics, internally or externally, are not entitled to much confidence—whether opium, henbane, belladonna, or camphor. Usually the very painful symptoms abate after a few days, provided the diet be carefully regulated, and the bowels be kept free. If they do not, the leeching or cupping may be had recourse to.

The "*swelled testicle*," which we so often see in connection with gonorrhoea, was formerly supposed to be the consequence of a metastasis, or translation of the disease from the urethra to the testicle; but that idea is not so commonly entertained at present. Usually, we have proof that the testicle becomes affected by a simple extension of the inflammation from the urethra.

There is a difference of opinion as to the part of the organs which suffers: some persons conceive that the inflammation is confined to the tunica vaginalis, and that the swelling of the organ is the result of the effusion into that sac. Other persons think that the glandular part of the organ is effected, and not the tunica vaginalis. You have seen that the tunica vaginalis is not always the seat of effusion, and that when it is, it does not contribute largely to the bulk of the organs; and you have had repeated opportunities of observing that the epididymis is usually most swelled, but the swelling often extends to the testicle, and also to the scrotum. You have rarely seen swelled testicle in the first week of a gonorrhoea, not often in the second; but as the inflammation abates in the anterior portion of the urethra, it sometimes extends backwards, and then it is that the testicle is in danger. At that time an inconvenient pressure or blow upon the organ, or any debauch, will very often set up the mischief.

It is a mistake to say, that, when the disease is set up in the testicle, the affection of the urethra disappears: it is usually considerably lessened before there is any reason to suspect the testicle; and, when the pain and inflammation are set up in the testicle, a sort of counter-irritation is established, and the discharge from the urethra is usually lessened, but does not entirely cease. The inflammation may affect one testicle at a time, or both, or it may affect both in turn; but here we have seen the left suffer most frequently. In some cases its course is very rapid and very painful; in other cases it takes three, four, or six days to attain its greatest intensity.

The treatment we always employ, unless there be any particular contra-indication, is to exhibit nauseating doses of tartar emetic, associated usually with some purging salts; but it is not always easy to determine what is a nauseating dose. I am accustomed to begin with a grain, and, supposing it excites nausea, it is kept up by $\frac{1}{2}$ or $\frac{1}{4}$ grain doses every four hours. That, with rest in the horizontal position, will usually subdue all acute symptoms within 48 hours.

Purgatives alone in an early stage are objectionable: they increase the feeling of dragging and discomfort. Compression is a plan of treatment a good deal employed, but we have not had recourse to it much here, and principally for this reason—that it is not often well applied; and, if it be not, it does much more harm than good. If the testicle be well strapped, it is astonishing how promptly it often brings relief. Some people rely much on leeching, but it is often inconvenient: the patient sometimes finds himself in a pool of blood in the succeeding night; sometimes the patient's scrotum becomes so infiltrated as to alarm him; sometimes the leech-bites fester, and are very troublesome. Some persons, instead of using leeches, have recourse to small punctures with the point of a lancet: the object is twofold—to relieve the parts by blood-letting, and to lessen tension by puncturing the tunica vaginalis. If the points for the punctures be well chosen, prominent, and the point be inserted deep enough, in some cases a jet of serum will follow, but not always. When much serum escapes, the relief is very decided and immediate; but it is often necessary to repeat the punctures, and to surround the parts with a lotion or poultice. If the pain were very great, this plan might be associated with the tartar emetic plan; but alone I prefer the latter.

Under judicious treatment, the resolution of the tumor is pretty complete. Sometimes points of suppuration occur; but almost always a small hard tumor remains at the

epididymis,—often for months; sometimes for years, and occasionally for life.

The last complication to which I shall refer is *stricture*; and a most important one it is. The gonorrhoeal inflammation having become chronic, sometimes persists obstinately, and, in the end, produces a thickened condition of the mucous membrane, by which the diameter of the canal is more or less diminished. The diminution of calibre may be trifling, or it may be so great that the smallest bougie cannot be passed through the contracted part. Any portion of the canal anterior to the prostatic region may be thus strictured; but the commonest part at which it is found is some part of the curvature. The result of this state of the urethra is, that the bladder is unable completely to empty itself; and, therefore, the recurrence of the desire becomes more and more frequent, until it sometimes happens that a man is obliged to get up every hour of the night. The distress is usually greatest during the night, and least easily borne. The bladder often becomes affected by this unceasing irritation: sometimes inflammatory action is set up in it, or the irritation may extend to the kidney, and bloody urine, or other consequence of an irritated or inflamed kidney, may be the result.

All those troubles, supposing them to exist, may give way to treatment directed to the urethra; the canal being dilated, and a free passage obtained for the urine, the trouble in the bladder and the kidney will sometimes disappear. Certainly any means of lessening the trouble which may be employed, while the obstacle to the passage of the urine still remains, will be ineffectual.

The means which are had recourse to for the relief of stricture are mechanical and chemical. The mechanical means may act by merely inducing the absorbents to remove the induration. This is done by the use of dilating bodies, bougies of various kinds, or by the use of cutting instruments employed from within or from without. The chemical means are, caustics of various kinds applied upon the point, with a view to destroy it. The caustics commonly used are Lunar Caustics and the Potassa Fusa.

There is no doubt that when the milder means are enough they should have the preference, but there are cases in which we must have recourse to *cutting instruments* or *caustics*.

In the first place, I think we should always have recourse to a dilating body, and if the obstacle can be passed by a bougie, however small, the process of dilatation is often comparatively easy, until the natural diameter of the canal is restored. In some cases by this method a permanent cure is effected, there being no sign of any tendency to

relapse, even after many months or years. But these cases form at least a very small minority of the cases treated. No matter how carefully the treatment by bougies has been carried out, if it be discontinued, the tendency to reproduction of the obstruction is unfrequently extinguished. After a time, it is observed that the stream of urine is lessened, and unless the treatment be recommenced and systematically persisted in, the contraction may go on until the urine escapes, either by a thread-like, interrupted stream, or drop by drop.

You cannot tell whether in a particular case the treatment by dilatation will effect a permanent cure or not; or, perhaps it might be most proper to express it in another way. The chances are so great that they almost amount to certainty, that in an aggravated case of stricture the cure will not be permanent; but, in a comparatively mild case, we cannot say that the treatment will be completely successful, though here the chances are much more favourable than under the circumstances previously stated.

The plan to follow, therefore, is to watch the stream, and by it to be guided as to the frequency of using the bougie: in one case, scarcely can a week be allowed to pass without having recourse to it; in other cases, no sensible difference can be detected at the end of a fortnight, a month, or even a longer period.

It sometimes happens that the urethra is so irritable that the treatment by bougies cannot be persisted in; and in those cases the exaggerated sensibility is often speedily modified by brushing over the morbid surface with lunar caustic, and the treatment by dilatation can then often be carried out. There are cases—few, it is true, in number—where any dilating bodies cannot be passed, and where the urgency of the symptoms in the kidneys or the bladder may make it necessary to resort to some means by which the obstacle may be immediately overcome. If you are satisfied that force can be prudently applied, the obstacle might be overcome from within; but when this cannot be done, instead of resorting to a forced introduction of a catheter or sound, we must have recourse to a cutting instrument, applied either within or without the canal. Supposing the obstruction to be situated in the straight portion of the canal, that is to say, in the part anterior to the pubis, the obstruction may be perforated by the “lan-cetted stilette,” and a bougie may then be passed through the opening thus made. But as such obstructions are commonly found at the curvature of the canal, I do not think that the instrument can be so prudently used in that situation, and the evil can be better met by cutting down upon the obstruction from without. This is not always

easy; but the plan to be followed is clear: an instrument, either a silver catheter or a sound, is passed fairly down to the obstruction, the patient is then placed in the attitude for lithotomy, and the urethra is cut upon at the point of the instrument, so as to enable us to pass it on into the bladder. It is then secured for some days, and the continuity of the canal is restored sometimes without, oftener with, a fistulous opening in the perineum. This operation for the relief of stricture is modern, but where it was performed simply to relieve the bladder, it is old, and was known as the operation of the *boutonnerie*.

There was a time, and that not many years ago, when the insufficiency of dilatation as a means of curing stricture was very generally acknowledged, and when much confidence was felt in the curative power of caustics. Of those substances, the one most commonly employed was the nitrate of silver, of which a piece was inserted at the extremity of a bougie and firmly secured. The bougie was then rapidly passed down to the point of obstruction, and kept firmly in contact with the resisting part for half a minute, a minute, or even longer.

More recently, other means have been employed for the application of caustics, by which a greater protection has been given to the healthy portion of the canal, and the caustic has been applied with more certainty to the diseased part. In Sir E. Home's plan the caustic was applied to the anterior surface of the stricture, and it was repeated until it was supposed the whole thickness was got through. It was Ducamp's object to apply the caustic fairly within the contraction, so that when the eschar was thrown off the diameter of the canal could be enlarged by so much. But, in many cases, the orifice of the contraction would not admit the smallest instrument by which the caustic could be applied.

The object of this treatment was to destroy chemically the morbid matter existing at the point, and to allow of the passage of dilating bodies, with which the cure was to be completed.

Such was the theory of the treatment of caustic; and whatever may have been the occasional success of the plan, it did not, I believe, owe it to the accomplishment of the theory.

Where an obstruction exists in the urethra, causing stricture, it is certain that the material deposited is usually found external to the mucous lining of the canal, and its chemical destruction cannot be effected until the whole thickness of the mucous coat is destroyed. This cannot be easily done, even by repeated applications of the caustic upon the same points. The experiment may be tried upon the mucous

membrane of the mouth ; and in the urethra the application has been repeated more than a hundred times in a single case.

And supposing the theory to be accomplished, and the morbid matter to be chemically destroyed, it is then clear that the whole thickness of the mucous lining is destroyed ; and I conclude it to be equally clear that a hard puckered cicatrix must be the result, and the original evil rather aggravated than relieved, even though there were no risk of extravasation of urine.

That caustic and bougies have sometimes succeeded I take to be certain, but not by effecting chemical destruction of the part. The caustic may have lessened the irritability, and may have given a stimulus to the absorbents, which, when further influenced by pressure, may have removed the matter there deposited.

Certain it is, however, that caustics are applicable only to particular cases, and that upon dilating bodies our principal reliance must be placed.

ON THE NATURE OF THE BLACK VOMIT.

BY DR. NOTT.

THERE have been many speculations on the nature and formation of this fluid, all of which are unsatisfactory ; they are well known to the profession, and I shall here merely state my own opinions, and the facts on which they are based. It cannot, I think, be a secretion, because it is most commonly seen in little particles, or masses of various magnitude, which could not pass through a secreting capillary ; and my own opinion is, that the black vomit is *blood*, exhaled in its natural state from the capillaries of the stomach, and changed black by the secretions with which it comes in contact : this chemical change, my facts go to shew, is produced by one or more acids. With the assistance of my friend Dr. P. H. Lewis, I have tested the black vomit in a considerable number of cases this summer (1844), and in every instance I have found it to be acid : when ejected from the stomach during life, it invariably turns litmus paper red, and the aqueous portion thus filtered differed in colour ; in some it was perfectly limpid, like water ; in one of a light green colour, like dilute bile with an acid added ; in others it was of a deep brandy or rum colour, which appearance was no doubt given by a small admixture of blood.

The secretions of the stomach in yellow fever are often excessively irritating ; and this property is probably attributable to the presence of acid. The patient often complains, in the black vomit stage, of a burning or scalding sensation in the stomach, which is immediately relieved by throwing off its contents. The patient, too, often

complains of the black vomit scalding the oesophagus, which, after death, is usually found more or less denuded of its epithelium. The acidity of this secretion may possibly account for many of the morbid changes in the stomach and oesophagus. A morbid secretion, of tears will scald the cheek ; mucus from the nose inflame the lip ; morbid secretion from the bowels excoriate the anus ; morbid bile irritates the stomach and bowels, &c.,—and we know that the gastric juice will often corrode the stomach in a short time after the extinction of life.

The next step was to ascertain whether acids would, with blood, produce a compound with the characters of black vomit. I accordingly took a few drachms of blood from the heart of a patient dead of yellow fever, and added to it four or five drops of muriatic acid diluted with a drachm or two of water, and shook them well together ; the black colour was produced instantly. The same experiment was tried repeatedly on the blood of yellow fever patients, and on that drawn from a patient with pleurisy by cups, and the effect was invariably the same. Any one wishing to form a correct idea of black vomit has only to treat blood in this way, and add a little gum-water, or flax-seed tea, to represent the mucus of the stomach, and his curiosity will be gratified ; no one can tell the artificial from the genuine black vomit.—*From an Essay on the Pathology of Yellow Fever. Amer. Journ. of Med. Sciences.*

[REMARKS.—The above interesting remarks merely afford further proof of a fact which has long been known to the profession. We have always understood that the matter of black vomit, and the “coffee-ground” fluid thrown from the stomach in the latter stages of some forms of peritonitis, &c. owed their peculiar grumous appearance to the presence of altered blood ; and we have been told that, more than forty years ago, most of the surgeons who saw much of the bilious remittent and true yellow fevers of the West Indies, were very well aware that the black vomit was due to erosion of the gastric vessels. M. Lassaigne analysed the black matter vomited in a case of scirrhus of the stomach. It was acid, and yielded a solid acid, possessing the properties of caseic acid, procured by Proust from old cheese ; it also contained a fluid acid, which M. Lassaigne considered to be lactic, but which, according to the corrections of Berzelius, must have been modified acetic acid. M. Collard de Martigny also examined the black matter thrown up by vomiting in a case of chronic disease of the stomach : its chief peculiarities were the presence of caseic acid and melanosed blood.—*Ed. Gaz.*]

Original Communications.

REMARKS ON THE
PATHOLOGY OF THE NERVOUS
SYSTEM.

BY RICHARD ROWLAND, M.D.

Lecturer on the Practice of Medicine at Charing
Cross Hospital.

THERE would appear to be some questions on the pathology of the nervous system, which are not capable of being solved by the ordinary methods of investigation, whether by the aid of the scalpel or the microscope, and which can be only studied with advantage by watching the phenomena which present themselves, and subjecting them to a rigid analysis. It is with this view that I take the liberty of submitting to the notice of your readers a few remarks on the general pathology of the brain, especially in reference to the course and progress of paralytic affections.

The functions of the nervous system seem capable of being divided into those which are permanently active and those which are only occasionally called into requisition. The first class of functions, those which are permanent, have this remarkable peculiarity, that they are beyond the influence of the will. In this are included common sensation, the special senses, the actions recently named reflex, and mental processes, so far as they are associated with the untiring activity of thought, and which are carried on incessantly without voluntary effort. In the second class are arranged voluntary actions of every kind whether physical or mental, which are only occasionally called into action, and which cannot be sustained beyond a limited period. These are exhausted by their employment, and afterwards require an interval of repose before they can regain activity. To this class belong voluntary motion, the mental power of judging, contriving, and the like.

It is true, indeed, that some of the functions in the first class are partially and occasionally under the control of the will, as the reflex functions are, and also the train of thought or the imagination; but in both these instances there is even in health some

actions which are involuntary and in constant operation; and even the mind in the exercise of its higher functions seems to be chiefly occupied in weighing and passing judgment on the *material* which these involuntary and ever-active cerebral agencies present to it.

Another fact of some importance in reference to these different functions is, that those having a more permanent character in the healthy condition of the body, are likewise less liable to become injured or destroyed by disease. There must, we can readily imagine, needs be a stronger and fuller stream of nervous power to keep up those actions which are constant and inexhaustible than to sustain those which are only occasionally energetic, although, as the latter class of functions have a more refined character, the structure upon which their development depends may probably be more delicate.

It may be owing to this circumstance that palsy of sensation is observed so much less frequently than the deprivation of muscular power, and that reflex actions preserve their vigour when there is complete paralysis of voluntary motion. May we not also on the same principle account for what is usually observed in mental disease, that the higher qualities of the mind, reason, and judgment are prostrated, whilst the imagination is still in constant and unceasing activity, and as the palsied limb is often convulsed, so the mind may in like manner be agitated by a thousand fancies and vagaries, the controlling influence of the will and judgment being removed in both instances?

The condition of the brain in regard to its capabilities of generating nervous power, has apparently very considerable influence on the character of its diseases. Very extensive disorganization is sometimes found in this organ in post-mortem examinations that had caused no remarkable symptom during the patient's life; and, on the other hand, we are often surprised on searching the brain for an explanation of very prominent cerebral symptoms, to find disease of only very limited extent. How are these discrepancies to be explained, if they are not dependent upon the amount of functional power in the brain itself? When it has great activity and the nervous fluid is abundantly secreted, its functions are sus-

tained with energy even under the pressure of disease; when, on the contrary, the organ is feeble or depressed, a very moderate amount of disease might bring on palsy or some other cerebral affection. Indeed, such seizures are usual after bodily fatigue or mental labour, which exhausts the nervous power and renders the brain unfit for the performance of its duties; and when any disease exists within the cranium, paralysis very generally ensues under such circumstances.

In this manner the want of uniformity of results in cerebral disease of the same character might be explained; these facts also suggest a reason why the sensation is often retained in a palsied limb; for when the energy of the brain begins to fail the evil would be first felt in the exercise of the functions which have a natural tendency to become exhausted, and not by those whose activity never ceases, which are incapable of fatigue, and which must require a corresponding energy and power in the apparatus supplying them with the nervous influence. We might almost anticipate, what is observed to be the fact, that these functions are not impaired readily, and regain their firmness and integrity rapidly when they have been disordered.

It sometimes happens, however, that the sensibility of a portion of the body is impaired, although its muscular power is complete. These cases are but rarely observed, and their most probable explanation would seem to be that the disease is confined to the sensory fibres of the brain to the exclusion of the motory. In other instances there is severe suffering in the palsied limb, so that at first sight it might appear that exaltation of the function of sensation is induced by the same morbid process that destroys the power of the voluntary muscles. But are we right in supposing that pain is merely excess of the common sensation in a part? It is true, indeed, that the sensibility of an organ is painfully acute in inflammation or other local disease; but there may certainly be increase of sensibility in a healthy part without suffering of any kind, but rather with the opposite feeling. Thus blind persons have the perceptive qualities of touch prodigiously increased in the extremities of the fingers, but this augmented sensibility is not associated

with pain. In some nervous affections, especially in hysteria, there is extreme sensibility of the whole surface, often existing without any pain. In some hysterical patients the perceptive powers of the cutaneous nerves are often wonderfully elevated, and perhaps this circumstance may explain some of those remarkable phenomena connected with the workings of the nervous system, which have latterly been ascribed to a more subtle and mysterious agency.

Whatever, therefore, may be the cause of the pains in palsied limbs, or, indeed, of nervous pains generally, they can hardly result from the mere increase of their ordinary sensation, or from a superabundant supply of the nervous matter upon which that quality depends.

May it not be possible that the nervous secretion (or whatever it is that causes sensation) is not composed of one element only, but of several, just as a ray of light is made up of several subordinate rays? I merely suggest this view of the subject now, but will briefly allude to some circumstances that seem to render it not improbable. Any accident which prevents this cerebral influence reaching a part in a full current produces pain. This is perhaps shown most remarkably in partial wounds of a nerve. It is not probable that a larger volume of nervous power would pass along a nerve with many of its fibres mutilated than in its sound condition. It is equally improbable that increased sensation should arise from some weakness of the organ that administers to that function; and it is more likely on every account that the pain in question is not produced by heightened but by perverted sensation. Upon this theory the occurrence of pain in a paralysed extremity is readily accounted for without the necessity of imagining that the same morbid process destroys one cerebral function, and at the same time gives increased vigour to another. It will explain, too, why these pains are so frequently intermittent, these changes marking the corresponding depression and recovery in a cerebral function which is one of the most remarkable for firmness and buoyancy; the paroxysms, however, marking not the period of increased action in the brain, but the stage of depression, as is shewn

not only by the circumstances now alluded to, but also by the class of remedies which experience proves to be best calculated to relieve the suffering.

The appearance of palsy on the opposite side of the body to that of the diseased brain, is sufficiently accounted for by the decussation of the cerebral fibres. There are other points in the history of this affection of more difficult explanation. Thus, in hemiplegia, the arms are often more completely palsied than the legs, and when either of the extremities is palsied singly, in general it is the arm that is affected; and when recovery is advancing after a stroke of palsy, the leg usually regains its power before the arm.

Carrying out this investigation further, it will be found, I think, that the extensor muscles are more readily palsied than the flexors. In the painter's colic it is the extensors which are paralytic, and in cases of partial palsy of the upper extremity, arising from other causes than the absorption of lead, it is still the same set of muscles that is usually attacked. In the lower extremities the same rule prevails, and the patient can flex the palsied limb generally for some time before he can extend it. And when tonic spasm attacks the paralytic limb, it acts upon the flexor muscles, which are forcibly and sometimes permanently contracted, so that the extremity is sometimes folded upon itself, while the extensors have no power to straighten the limb.

The reflex phenomena, as manifested in palsy, seems to offer another illustration of the same rule. By irritating the surface the limb is made to contract, often with vigour; and if, after it has been raised in this manner to a certain point, the irritation is continued, it does not (so far at least as my own observation goes) excite the action of the extensors, but on the contrary the limb is still further flexed. In other cases, however, this rule does not prevail. In some convulsive affections, especially of infancy, the limbs are stretched out and stiffened, and cannot be flexed even by the use of considerable force.

It is not easy to account for these circumstances, and what I have to offer in the way of explanation is merely conjectural. Whether the muscles of the lower extremities have a larger share of nervous energy than

the upper is very doubtful. The circumstances are very different from those which have induced me to suppose a superiority in this respect in sensation over muscular movement.

There is, however, one remarkable fact in connection with this point, viz. that the palsy is more liable to occur, and to be more enduring, when it has occurred? in those muscles which are observed to be least under the influence of the reflex power. This is acknowledged universally to be much less remarkably shewn in the muscles of the arm than in those of the leg, and it is stronger in the flexor muscles than in the extensors. It might, therefore, be expected that an amount of voluntary power, which would be sufficient to overcome palsy of the lower extremity, where the mechanism of muscular motion is more readily excited, would not be able to get over the difficulty in the upper extremity where the reflex power is comparatively defective. In other words, taking the palsy as a weight or incumbrance, and the will as the moving power, it must be evident that the lesser obstacle might be overcome by a force which would be incapable of making any impression on a greater one.

The occurrence of tonic or rigid spasm in the progress of nervous disease must manifestly depend upon a cause in some respects different from that which gives rise to palsy. Either some ingredient must be added or taken away. Upon this subject I may offer some remarks in a future paper.

S, Woburn Place,
January, 1847.

OBSERVATIONS ON THE DISEASES OF CHILDREN.

By JAMES MILMAN COLEY, M.D.

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[Continued from p. 100.]

Porriago decalvans, or Ring-worm in the scalp.

THIS troublesome disease, which is denoted by circular patches of baldness of various dimensions on the scalp, was described by Celsus under the title of *area*. The primary stage of the eruption, which consists of minute conical pustules, was overlooked by

Celsus and succeeding writers. These pustules are either solitary or in groups, and are attended with considerable soreness; and when they decline and exfoliate, the process of depilation commences in the centre and extends to the circumference, where the same succession of minute and almost invisible pustulation proceeds during several weeks, or until the baldness becomes stationary, when the circumference of the area will be found void of pustules and free from tenderness. An accurate observer may notice a slight degree of inflammation accompanying and adjoining the pustules, while they are in progress, especially at the commencement of the eruption. While the baldness is advancing, the epidermis may, by means of a microscope, be seen in patches, consisting of small, opaque exfoliations. The *arcæ* are not always confined to the scalp, being sometimes found on the forehead, neck, or breast. The disease is contagious, and almost peculiar to children.

The treatment adopted by the Romans consisted of daily shaving the morbid parts, and the application of sulphate of iron; and modern practitioners not only advise this unnecessary shaving, but insist on the frequent removal of the sound as well as the unsound hairs, and after trying various remedies, seldom succeed in effecting a cure. There is no necessity nor advantage in removing the hairs, and the disease may always be eradicated by the application, three times a day, of sulphate of copper, which should be rubbed over the bald patches in a state of solution, in distilled water, in a proportion adapted to the sensibility of the parts affected. The friction should be continued several minutes, or until considerable smarting is felt by the patient. As the cure proceeds, the new hairs will be perceptible, and found to possess their proper firmness and colour, and will ultimately cover and obliterate the *arcæ*. During the use of the lotion the patient should take some purgative medicine once in three or four days.

CASES I. and II., April 13, 1846.—The children of a gentleman in the country, one aged 4 and the other 6 years, were brought to me for advice respecting several eruptions of *P. decalvans* on their heads, which had resisted every kind of treatment during twelve

months. On one of them the disease had extended to the back between the shoulders:—*Lotio e Cupri Sulphate, Hyd. Chlorid. cum Jalapâ, 3iis. diebus.*

17.—The *arcæ* on the back dead and exfoliating.

June 10.—The eruption entirely removed, and the hairs have covered the denuded parts.

CASES III. to VII., Sept. 7, 1846.—Five children of a gentleman in the country had been afflicted with ringworm of the scalp during two years. In all these cases the mother of the children, who was a very intelligent lady, observed that the *arcæ* were all preceded by minute pustules, accompanied, at first, with slight inflammation and soreness:—*Lotio e Cupri Sulph. et Hyd. Chlor. e Jalapâ, 3iis. dieb.*

Dec. 9.—The disease quite removed.

CASE VIII., Oct. 1, 1846.—E. J. H. æt. 5, was admitted a patient of the Western Dispensary with *P. decalvans* in a severe and extensive form, several of the *arcæ* being an inch and a half in diameter. She had been a patient in a hospital nine months, during which time all the hairs had been twice shaved from the head, and various ointments had been tried in vain:—*Lotio Cupri Sulph. et Hyd. Chlor. e Jal. 3iis. dieb.*

Dec. 14.—Discharged, cured.

CASE IX., Nov. 5, 1846.—G. B., æt. 2, was admitted a patient of the Western Dispensary, with *P. decalvans*, which appeared in large, circular, bald patches, and had been observed to commence with minute central pustules:—*Lotio Cupri Sulph. et Hyd. Chlor. e Jalapâ, 3iis. diebus.*

Dec. 14.—Discharged, cured.

CASE X., Nov. 24, 1846.—S. T., æt. 6, was admitted a patient of the Western Dispensary with *P. decalvans*, which had existed three months. One of the circular patches was as large in circumference as a crown-piece:—*Lotio Cupri Sulph. et Hyd. Chlor. e Jalap. 3iis. diebus.*

Dec. 10.—Disease nearly cured, and the new hairs growing rapidly, and covering the affected parts.

CASE XI.—The brother of the above child was admitted on Dec. 10, 1846, a patient of the Western Dispensary, with *P. decalvans*, which had been communicated to him by his sister:—*Lotio Cupri Sulph. et Hyd. Chlor. e Jalap. subindè.*

Dec. 21.—The disease rapidly disappearing.

The proportion of the sulphate of copper, which I have generally found sufficient, is about fifteen grains to the ounce of water.

Porrigo Favosa, or Scald Head.

The principal characteristic of this eruption is a matting together of the hairs of the head at the parts affected, occasioned by a copious secretion of thick, purulent, offensive matter. The disease begins with distinct pustules, which ultimately coalesce and discover beneath the edges of the scabs irregular ulcerations in the cutis vera, presenting a corroded appearance, and being surrounded with a narrow inflamed border. This disease is contagious like the former species, and is sometimes met with on other parts of the body as well as the head; and in adults, or persons advanced in life, as well as in children. Two cases of this species of porrigo have lately occurred at the Western Dispensary in women, the age of one of whom was 21, and of the other 50.

The disease has been discovered in my practice to originate from transition of sub-acute inflammation in the intestinal or bronchial mucous membrane to the skin, between which surfaces an extraordinary connexion exists. On this account I always advise the exhibition of medicines calculated to increase the mucous secretion from the intestinal canal during the employment of external applications.

The generic term of porrigo is derived from *porrum*, garlic, and *imago*, which signifies resemblance; the smell of the incrustations in this and *P. scutulata* having a great similarity to the odour of garlic.

Treatment.—This disease is speedily cured by the application twice a-day of Ung. Hyd. Ammon. Chlorid. and the internal exhibition once in three days of Hyd. Chlorid. with Jalap in purgative doses. Some practitioners employ as an external remedy Ung. Picis li- quid, which has little or no effect, and others ineffectually torment their patients with pitch-caps after the hairs have been removed.

Porrigo Lupinosa.

This singular eruption consists of a prominent hard concretion of muco-purulent matter, secreted by, and firmly

adhering to the skin, resembling a portion of dry mortar or plaster of Paris. I have usually found the incrustations assuming an oval or longitudinal shape, and they are not confined to the integument on the head, being met with frequently on other parts of the skin. The appearance of the scabs examined by the common achromatic microscope has been supposed by some* to resemble a vegetable fungus, and this hypothesis has been strengthened in their imaginations by the smell, which they fancy is like that of the common mouse. Dr. Corrigan† has carried this conjecture still further, by supposing it probable that the fungus may be somehow conveyed to the human subject by the mouse, on which animal Dr. Bennet has discovered a similar cutaneous production. The disease is not contagious, and therefore I conclude the advocates of its vegetable origin have not succeeded in transplanting it from one human subject to another. As the eruption appears in children during a state of cachexy, it is not improbable that the peculiar appearance and odour of the scab may be owing to the presence of phosphate of lime, either in combination with pus or a muco-purulent secretion, produced by the disturbance in the elements of the blood, arising from imperfect digestion and assimilation.

Treatment.—The treatment which I have recommended for *P. favosa* will be found equally effectual for the cure of *P. lupinosa*. I have never seen any case which has not been speedily cured by these means, and there will be found no more necessity for removing the hair, when it appears on the head, in the latter than in the former species. The following case, which was brought recently under my notice, is adduced to shew that the disease is liable to attack other parts of the skin as well as that covering the head:—

CASE: 1846, Dec. 21.—R. P., æt. 4, was admitted a patient of the Western Dispensary, with *P. lupinosa* on the nates, which had existed three months. The eruptions were numerous and of various shapes; some being circular, as described by Bateman, and others longitudinal or crescentic. The incrustations, all of which were elevated above the adjoining skin, were not sur-

* Ehrenberg and Bennet.

† Medical Times, 1846.

rounded by any inflammatory border, and had exactly the appearance of portions of hard mortar firmly adhering to the skin, with a depression in the centre of each.

I prescribed 4 grains of Hyd. Chlor. and 10 of Jalap, to be taken every third morning, and the affected parts to be anointed twice daily with Ung. Hydr. Am. Chlorid.

28.—The eruptions exfoliating, and the subjacent skin presenting a red inflamed appearance.

31.—All the eruptions removed, and their bases assuming the natural colour of the skin.

47, Chester Square, Jan. 1847.

OBSERVATIONS ON

PHAGEDENIC SPHACELUS, OR HOSPITAL GANGRENE,

WHICH ATTACKED THE CELLULAR, MUSCULAR, AND FIBRINOUS TISSUES OF THE WOUNDS OF THE PRIVATES AND NON-COMMISSIONED OFFICERS OF HER MAJESTY'S 29TH REGIMENT OF FOOT, AFTER THE ACTIONS OF FEROEZESHAH, 21ST AND 22D DECEMBER, 1845, AND SOBRAON, 10TH FEBRUARY, 1846.

By T. MOORE, B.A. M.B. M.R.C.S.

Surgeon in Medical Charge, 5th Infantry Regiment, Scindia's Contingent, Gwalior; formerly Secretary to the Medico-Chirurgical Society of Dublin.

[Continued from p. 1006 of last vol.]

ALL tissues alike were subject to the destructive effects of this specific inflammation, terminating in phagedenic sphacelus. The cellular, muscular, and fibrinous tissues, although not at all times attacked simultaneously, yet subsequently suffered in proportion to their relative degrees of vitality. The sheaths of veins, arteries, and nerves, were attacked by the disease, and sloughed away, leaving the coats of the vessels exposed, and the fibrils of the nerves separated, hanging apart from each other. In four cases the coats of the arteries sloughed away, and profuse hæmorrhage ensued. In two of these four cases the coats of the internal and external malleolar arteries gave way; in a third the coats of the radial and anterior interosseous artery, and in the fourth the coats of the posterior interosseous artery of the forearm. The sloughing of the coats of the superficial and deep-seated veins occurred in several cases. In one private very

troublesome hæmorrhage ensued: the calf of the right leg had been carried away by a round shot on the 21st December, 1845; the hæmorrhage was checked, the wound dressed, and the man sent into Ferozepore on the 23rd of December. Nearly six weeks afterwards, when the wound was granulating and closing in by degrees, the surface and edges of the wound were attacked by this specific inflammation, which rapidly assumed a gangrenous appearance; the sheaths of the deep tibial and peroneal veins sloughed away; the vessels remained in this denuded state for several days, when the coats of the veins, from their extreme attenuation, and from being deprived of their remaining vitality, gave way, and smart hæmorrhage followed.

In cases where amputation of the limb could not be performed without the obvious risk of accelerating the patient's death, the frequent recurrence of venous hæmorrhage, however trivial, has proved not merely troublesome to check, but dangerous in its consequences. The loss of blood from the sloughing of the venous coats, in addition to that previously sustained on the field of battle, the adynamic type of the fever, and the debilitating effects of the gangrenous disease on the constitution, have endangered the lives of several patients, and proved fatal in more cases than one.

Fortunately, the coats of the blood-vessels, when denuded of their enveloping sheath, do not necessarily give way. In two privates and one non-commissioned officer, wounded in the actions of the 21st and 22d December, 1845, by grape-shot, one in the right and two in the left thigh, extensive destruction of the cellular, muscular, and fibrinous tissues of the wounded parts ensued, from the specific diffuse inflammation having run rapidly into phagedenic sphacelus. In each case, the uneven, welded iron balls struck the thigh in front, about $3\frac{1}{2}$ inches from the groin, and passed obliquely outwards in one; inwards, in a semi-circular direction without striking the bone, in another; and in the third, the non-commissioned officer, the ball, somewhat spent in its force, struck the forepart of the thigh, penetrated the skin and muscles as far as the bone, where it received a check in its transit, and lodged on, without producing frac-

ture of the bone. All the intervening parts, between the entrance and exit of the balls, in the two cases first mentioned, became involved in the gangrenous disease which attacked the wounds in front; and in the separation of the sloughs, after the mortification of the tissues had ceased to extend, the sheaths of the femoral vessels were laid bare, and in a partial degree sloughed away, exposing to view the relative positions of the artery and vein. The pulsations of the femoral artery were distinctly visible, throbbing with a marked degree of violence or excitability. About the eighth part of an inch of the sheath in each case had sloughed away, leaving the artery and vein denuded, but their coats apparently were untouched by the disease, and about three-fourths of an inch of the enveloping sheath of the femoral vessels remained exposed to view. In private Pountain's case, the external saphena vein lay on the surface of the bare muscles, loose, unconnected with the surrounding parts, an obliterated chord.*

* "Last week we announced the demise of Lieut.-Colonel Marcus Barr, C.B. His name is now added to the list of eminent men who have fallen in the service of their country.

"In our columns we have frequently recorded the gallant achievements of this distinguished soldier, not only at the victory of Maharajpore, under the walls of Gwalior, on the 29th December, 1843, but also at the recent glorious victories of Moodkee, Ferozeshah, and Sobraon, on the banks of the Sutledge, during which campaign Colonel Barr held the high office of Acting Adjutant-General of Her Majesty's Forces. Thus, he saw the commencement, progress, and final success of a series of triumphs which will be ever memorable in the history of India. Some extracts from a letter by Major-General Sir H. Smith, Bart. G.C.B. with which we have been favoured, conveying to the family of Col. Barr the intelligence that this brave and accomplished officer was no more, will be read with much interest. If aught could assuage the poignant grief of his relatives it is this tribute of the hero of Aliwal to the memory of his friend. Sir Harry Smith says in his despatch, dated Lamp, Lattaala, on the road to Simla:—

"Would I had a far less painful duty to perform than that of telling you I have lost one of my dearest and most valued friends. You, a brother, an honour to his family and to his profession, and to his country.

"You will be aware he was severely wounded in the battle of Sobraon, the large bone of his left arm was much shattered by a musket ball. It was not amputated, and although while at Ferozepore we were in constant alarm for his welfare, he reached Kussowlie, a hill station near Simla, in charge of the very able surgeon of his own regiment, where it appears the wound had sloughed, and the artery must have become diseased, for, on the 26th March last, a violent hæmorrhage occurred, and our noble Marcus sank under it.

"You know the friendship which existed be-

Not less serious have been the destructive effects of this disease in the vicinity of the joints of the upper and lower extremities. The tendinous insertions of the muscles, although less prone from the minor degree of vitality they possess, to yield to the influence of the gangrene, yet sloughed away in detached masses and long black fibres from the fleshy portions of the muscles. The separation of these tendinous sloughs in general was slow, tedious, and in small bundles at a time.

In the hand and in the forearm, on their anterior and posterior aspects, the tendinous insertions of the flexor, pronator, and supinator muscles, have remained for some time hanging from the wound, after the sloughs of the cellular and muscular tissues had separated: so tedious was their detachment from the parts possessed of vitality, whether tendon or muscle, that it was frequently necessary to cut them with a scissors, to prevent their retarding the subsequent granulation of the wound.

Deeper still did this phagedenic destruction of the tissues penetrate. The simple flesh-wound on the surface lately healed, when attacked, opened out afresh; the edges of the amputated limb, recently cicatrized, burst asunder, and the cementing structure which knit together the fractured extremities of the bones, in the short space of a few hours was deprived of vitality, softened, and reduced in consistence to the condition of the sphacelated parts surrounding it. The unceasing efforts of nature to repair the injuries sustained by the soft and bony structures of the limb proved of no avail. The process of union, by which the fractured parts of the bones had been cemented together, was checked not merely in its progress towards ossification, but completely destroyed; and in the subsequent suppuration of the wound during the separation of the gangrenous sloughs, fragments of bone with pus and blood, and detached pieces of cartilage, have been discharged from the wound, leaving the fractured extremities of the bone separated from each other by a considerable interval.

[To be continued.]

tween me and Marcus, &c."—*Naval and Military Gazette*, June 6, 1846.

A CASE OF FRACTURED PELVIS.

By JAMES BINNY, M.D.

Surgeon, Arbroath.

DAVID RAMSAY, aged 15 years, was admitted into the Arbroath Infirmary on the morning of the 25th November, having sustained a severe injury of the back and pelvis from the levers of a threshing mill to which four horses were attached; one or more of the levers having crushed him between the supporting beam and the lever as they passed, and so compressing the part of the body struck into a space of seven inches. On examination, it was found that the os ilium was separated at the sacro-iliac synchondrosis, and projected upwards and backwards at least an inch. On placing the hand on the anterior superior spinous process of the right ilium, and taking hold of the tuberosity of the ischium of the same side, the whole is very moveable, and distinct crepitation is perceived. The pubis is fractured, and supposed a comminuted one, where that bone joins the ilium. The effusion over the whole of that side is so great, that a distinct examination cannot be made; there is also a very tender and tumefied spot on the lower dorsal and upper lumbar vertebra. Patient unable to lie on his back, but finds most ease by lying on left side, with a bandage passed below the thigh, and spread out as broad as possible over the right hip, which gives him more ease. This bandage is attached to the post of the bed. When the bandage is slackened, the whole right side of pelvis falls down, causing much pain. The boy, by passing his hand under the tuberosity of the ischium, relieves himself by pushing the bones upwards, and holding them in that position. Is unable to pass urine, which was removed by the catheter to the extent of four ounces; patient looks pale, and complains that the right leg is asleep; no loss of sensation; the leg one inch shorter than the other; foot and knee turned inwards. Pulse 130, and weak. To have some port wine and water till warmth returns. Considering severity of the accident, patient makes little complaint.

5 o'clock visit.—Complains of pain

from inability to pass his water; urine withdrawn to about three ounces. Has had wine and water frequently administered, but the stomach refused to retain it longer than a few minutes; asked for a drink of beer, which was given, but vomited; has a desire to pass feces, but unable. An enema of warm water was given, but no feculent matter came away. Pulse weak, 130.

26th.—Has had a restless night, slumbering occasionally, awakening every now and then with a start. Has made urine four times without assistance, which is now depositing a white sediment. Has a little thirst; no appetite, but a small bit of biscuit taken this morning remained on the stomach. Pulse 100, small and weak. Has no complaint of pain any where unless when leg is moved; looks on the whole revived.

Visited at 7 o'clock evening.—Patient sound asleep. Has had nothing to eat. Pulse 100. Enema administered, and a full evacuation took place from the bowels. Found great relief from his father supporting the pelvis by placing the hand below tuber ischii. Patient complains of the bones in front grating one upon the other.

27th.—Had a good night, and slept occasionally, awakening refreshed; has no complaint. Had some tea and half a slice of bread to breakfast, which he eat with relish. Pulse 84; no fever; no thirst. To have milk and bread to dinner.

Visited at 7 o'clock.—Has been restless this afternoon, and rather feverish. Tongue dry and white; no thirst. Pulse 84, rather fuller. No motion from bowels to-day. \mathcal{R} Tart. Emetici, gr. j.; Sulph. Magnes. \mathfrak{z} ss.; Aq. Fontanæ, Oss. M. A table-spoonful every two hours. If bowels are freely moved after two or three doses, medicine to be given at longer intervals.

28th.—Was rather uneasy during former part of the night, but slept composedly during latter part; and this morning is fresher looking. Has had the tartar emetic mixture regularly, which has relieved the dryness of the tongue, and brought out a gentle perspiration. Tongue cleaner; pulse 84. Relished his breakfast, and on the whole seems easy and much more cheerful.

29th.—Had no sleep till one o'clock in the morning, but rested better after

that. Pulse 80; tongue quite clean and moist; complains of being very sore over the back. On examination a large ecchymosis is seen, measuring 18 inches long by 6 inches broad. Has had no motion from bowels without the aid of medicine. Had last night 3ss. Ol. Ricini, which acted well on the bowels, and afforded much relief to the tenesmus.

30th.—Has passed a good night. Pulse 84. Had for the first time since accident a motion from the bowels without either medicine or enema.

Dec. 1st.—Had a restless night, and complains of uneasiness in the bowels. Had two drachms of castor oil this morning, which is griping him a little. Pulse 104. To have an enema of warm water, and at bed-time twelve drops of Sol. Mur. Morph., and repeat if necessary.

2d.—Has passed a very good night, and slept more than usual; looks much better, moves the leg without complaining of pain, and turns round more on his back than he has ever yet done. Had last night 12 drops of Sol. Morph. The same dose to be repeated to-night at bed-time, if restless. Pulse 86.

3d.—Had a worse night than last, and required two doses of Sol. Morph. Complains of want of relief from the bowels. An enema was administered, and a large motion followed. Pulse 96. Ecchymosis on the back is much less.

4th.—Patient slept well, but required this morning an enema to relieve the lower bowels. A firm bandage was passed round the pelvis, and the bones supported as far as practicable.

5th.—Thinks the pelvis is supported by the bandage. Was restless during the night from pain in the leg, which has commenced for the last two or three nights, as patient was beginning to sleep. Pulse 80. Had passage from bowels this morning without either enema or medicine. Had twelve drops of Sol. Mur. Morph. last night.

Visited at 3 o'clock in the afternoon, in consequence of feeling very great pain in the abdomen, which is rather tender when pressure is made over the umbilical region. Patient has been crying out for an hour before visit. Had broth to dinner, of which he partook heartily. Was ordered an emetic with relief, and had twenty drops of Tinct. Opii administered. Pain continuing to increase, blood was drawn

from the arm to the extent of eight ounces, when patient became sick and faint. Pulse 76.

Visited at half-past 7 in the evening. —Still complains of severe pain in the bowels. On examining blood drawn at previous visit, it was found highly inflammatory. From the state of the pulse, which, though not very frequent, was contracted and hard, and decidedly enteritic, the patient was again bled to sixteen ounces without causing faintness, and very little sickness. Was ordered twenty drops Tinct. Opii, and four grains of calomel, with a quarter of a grain of opium every four hours, and to have abdomen fomented during the night if pain is complained of. No food but gruel.

6th.—Slept well from one o'clock in the morning till day-break. Pulse fuller and stronger, 82. To continue the calomel powders, two grains, with one-sixth of a grain of opium, every four hours.

7th.—Complained during the night of pain in the leg, which prevented him sleeping. Pulse quite natural, 72. Had passage from the bowels without aid of any kind. Complains of a very bad taste in the mouth. To stop powders, and have a little arrow-root to dinner.

8th.—Had a very good night, and to-day no complaints. To be kept quiet. The drops at night if restless.

9th.—Is quite well from attack of enteritis.

28th.—Continued to improve, and is now able to go about on crutches. Right leg is half an inch shorter; he stands quite well and firm by putting the right leg in advance of the other. There is behind considerable displacement of ilium. The superior spinous process is tilted upwards and backwards. Firm union has taken place at fractured part of pubis.

31st.—Was discharged this day at his own request.

Arbroath, Jan. 6th, 1847.

A HINT TO PRACTITIONERS.

It is a great fault common to young practitioners, particularly of late, that they strive principally to excite sensation, whether it be by the newest fashion of dress or science, or by love of paradox and singularities, or even by charlatanism.—*Hufeland*.

MEDICAL GAZETTE.

FRIDAY, JAN. 29, 1847.

IN our leading article of the 15th inst. we called the attention of the profession to the influence of a certain class of modern, historical, and fictitious works in increasing the frequency of the crime of secret poisoning in this country.

It would now be difficult to ascertain with any great degree of precision, whether the morbid taste which has encouraged the publication of these pernicious narratives has been originally instrumental in occasioning the late frightful increase of assassinations by poison, or has merely been engendered by the extraordinary publicity which has recently been given to the trials of many persons accused of this crime. It is sufficient to observe that the number of these publications which have been given to the world, and the number of trials for poisoning which have been conducted in this country, have, for some years past, been progressively on the increase, and there is too much reason to believe that, while the excitement produced in the public mind by the recent cases, has caused every fictitious and historical work on the subject of poisoning to be read with the greatest avidity and interest, the dangerous principles, and extremely suggestive facts contained in those writings, have been strongly instrumental in rendering the crime in question so frightfully prevalent as it at present is.

The influence of that kind of felon literature, which was so much in vogue a few years since,—the great object of which appeared to be to give an air of chivalry and romance to the violent and nefarious actions of the highway-

man and the pickpocket, the burglar and the prison-breaker—has, on many occasions, been clearly proved to have been directly instrumental in increasing the frequency of various kinds of felony in London and elsewhere; and we are perfectly convinced that the style which now prevails among our popular writers is daily exercising an analogous, but far more destructive influence.

A very painful example of the injurious effects produced in the minds of non-professional persons by the study of the action of poisonous drugs upon the system, occurred a few years since, and must still be fresh in the memory of most of our readers. One of the last novels which was published by a late accomplished authoress, owed the main details of its plot to the crime of poisoning by prussic acid. The heroine of this tale is described as employing a chemical process for the purpose of extracting poison from the kernels of peach-stones; this poison is subsequently had recourse to in producing that general destruction of human life, which appears to be so absolutely indispensable to the finale of a modern romance. It is well known that within a year or two of the publication of this work, the writer herself died from the effects of prussic acid which she was in the habit of employing without proper caution, or the sanction of a medical opinion.

Very shortly after the appearance of several popular works of the class under consideration, the crime of poisoning assumed a new and very fearful character, which indicated that the wretches who employed this mode of assassination had become warned of the danger of detection that attends the administration of large quantities of any destructive drug, and had made themselves in some measure acquainted with the art of slow poisoning, which

was so frequently exercised in Italy and France, and probably also in our own country, some centuries back. With the exception of the cases of Blandy and Butterfield, which occurred respectively in the years 1752 and 1775, no well-ascertained instance of slow poisoning had been brought to light in England until subsequently to the trial of Madame Laffarge. The public prints, however, afford most sad and conclusive evidence that criminals are now becoming well acquainted with the slowly destructive effects which comparatively small doses of arsenic and of other poisons are calculated to work in the system, and are beginning to employ these means to the exclusion of those less guarded measures which were almost invariably employed a few years since by their less instructed predecessors in crime.*

Toxicologists are now compelled to exert their powers of discrimination upon a class of cases the true nature of which is far less readily distinguishable than was that of the instances where the obvious character of the symptoms, together with the marked traces of poisonous action discovered on post-mortem examination, usually left not the slightest doubt either of the character of the crime which had been perpetrated, or of the means by which it had been effected.†

* One atrocious case of this kind, *i. e.* of slow poisoning by arsenic, which completely deceived the medical attendant, is now waiting for trial in this country. In order not to prejudice the accused, we cannot at present make any further allusion to it. Some of the incidents are as tragically romantic as those which came to light in the celebrated "*affaire Laffarge*."

† As an instance of the diffusion of criminal ingenuity, we may here mention that soon after the reports of the trial of Madame Laffarge had been circulated from one end of the country to the other, a person who had rendered himself very active in an election, and who was imprisoned in a gaol on a charge of abduction of voters, received a present consisting of a plum-cake, with a kind letter begging his acceptance of it as from a friend. Fortunately he took only a small portion in order to taste it, and he was soon afterwards seized with symptoms of poisoning by arsenic, but recovered. The cake was examined by order of the then Solicitor-General, Sir Thomas Wilde, and was found to be saturated with arsenic. The poison had not been in-

The great publicity which has of late years been given to the histories of certain cases in which poison was employed by servants, for the purpose of revenging themselves upon the families with whom they resided, for some assumed or real injuries or insults received during the period of their servitude, has, we fully believe, been the real cause of certain heinous offences which have been brought to light in the United Kingdom within the last twelve months.

The case of the German poisoner, Anna Zwanziger, or Schönleben, which has recently been so extensively propagated in this country, was, we believe, first translated into English in the sixteenth number of the *Foreign Quarterly Review*; it was subsequently published in many of the cheap periodicals of the day,* and it has recently been again brought forward in a collection of German trials, translated by a lady of distinction. We shall give one or two extracts from the original English report of this trial, for the purpose of shewing the influence which a popular acquaintance with its details has probably exerted in producing an inclination to commit similar offences among persons holding the same position in society as that occupied by the German criminal. The following are portions of Schönleben's confession:—

"Poison seemed to furnish her with the talisman she was in search of; it punished her enemies, it removed those who stood in her way; its operation afforded her the means of rendering her good qualities conspicuous in her affected sympathy for the sufferer; nay, administered in smaller

produced into it in *powder*, but, as it appeared, by means of a saturated *solution* of arsenic in water, filtered and mixed with the dough! A small piece suspended in a glass of distilled water gave immediate indications of the presence of the poison.

* We have been furnished with two penny publications, which appeared several years ago: they contain full reports of this case in all its disgusting details.

quantities by her experienced hand, it was equally effectual in preventing a second visit from a disagreeable guest, or annoying a fellow-servant with whom she had a quarrel. By long acquaintance poison had become so familiar to her, that she seemed to look on it as a useful friend; something equally available for seriousness or jest; and to which she was indebted for many a trusty and secret service. When the arsenic which had been taken from her pocket was exhibited to her some months afterwards at Culmbatch, she seemed to tremble with delight; her eyes glistened as she gazed upon it, as if she recognised a friend from whom she had long been separated.

"Here," (in the service of one Grohmann, whom she subsequently poisoned), "her common mode of revenging herself upon such of her fellow-servants as she happened to dislike, was to mix fly-powder with the beer in the cellar, in the hope of creating illness, though not death; and of this beer it happened more than once that some of the visitors at Grohmann's table also partook."

Several of the above details will strike our readers as bearing a remarkable coincidence with the circumstances of certain instances of poisoning which have recently appeared in the public prints. Within a recent period two servants have been apprehended on suspicion of placing arsenic in the food intended for their masters' family. In one of these cases, which occurred in the county of Kildare, an attempt was made to poison the family of a medical man by the cook, who appears to have been instigated to this vile act merely by the circumstance of her master having insisted that Indian corn should be used in the house! The son died, and several of the family were severely ill. In the other instance, a cook, who had received notice to quit from her employers, was charged with having substituted arsenic for soda in a cake which was intended for the use of the family. A portion of this cake was eaten by a

young lady who happened to be present when the poisoned viand was produced. She died from the effects of the poison! A visitor was thus killed, while the family was saved.* It appears probable that, in each of these cases, the intention of the culprit was not to commit murder, but to produce a degree of illness in the persons who partook of the poisoned food, which should satisfy her revenge for the trouble they had occasioned.

The expression of the German prisoner, that "*the operation of arsenic afforded her the means of rendering her good qualities conspicuous in her affected sympathy for the sufferer,*" certainly coincides in a very singular manner with the acknowledgment which was lately made by a house-keeper, who declared that she had administered arsenic to her master, not for the purpose of destroying his

* This woman was tried on the charge of murder, but was acquitted on the usual ground—*i. e.* *absence of proof of administration*. The carelessness and indifference with which such heinous charges are prosecuted is a disgrace to our criminal procedure. The Law Officers of the Crown never bestir themselves on such occasions; the prosecution is often left in the hands of parochial "Dogberries," who go through the forms of law at as *cheap* a rate as possible. Barristers are generally inclined to take up the defence in preference to the prosecution of such cases; and by a little sophistry, and some "tact and ability" in perverting medical evidence, like that displayed on a recent trial for murder by poisoning at the Guildford Assizes, they can easily enlist the sympathies of an ignorant multitude in favour of the most atrocious criminal. The jury are appealed to, not to vindicate the laws of the country, but to say "whether they can really make up their minds to consign a poor trembling helpless female, &c. to the scaffold!" What we ask, is,—not that justice should be strained, but that it should be *properly enforced*,—that a person charged with the crime of murder by poisoning shall not be shielded from punishment by the indifference of parishes to prosecute, or by the unexposed sophistry of counsel engaged in the defence. The simple remedy is to appoint a public prosecutor, like the Procureur Général of the French Courts. It is of no practical utility to employ the best means to discover whether death was caused by poison or not, unless equal industry and ability are displayed in tracing out those facts which will uncontestedly prove the fact of *administration*. In nine cases out of ten such proofs are not wanting, but they are not sought for, or they are entirely overlooked! *Lex damnatur cum nocens absolvitur*. How frequently is this maxim applicable to the proceedings of the criminal law in the present day!

life, but with a wish to ingratiate herself by her attentions to the unfortunate man during the period of his illness, induced by her pernicious practices, and to induce him to marry her! We are strongly inclined to believe that these coincidences have been the result, not of accident, but of imitation.

Up to a very recent period the history of the crime of poisoning in this country does not appear to afford any examples, in which attempts to destroy life were made by persons who themselves partook of the poisoned food placed before their victims, and subsequently employed antidotes to counteract the effects of the drug upon their own system; but we fear there is reason to believe that this refinement of homicidal ingenuity has recently been practised in the neighbourhood of London. Three persons, a tradesman, his wife, and their shopman, partook of tea which contained a large quantity of oxalic acid. Soon after drinking the poisoned beverage the shopman left the room, and was attacked with violent vomiting. The master and mistress died from the effects of the acid; the servant, although he suffered severely, ultimately recovered. There was strong reason to believe that this latter individual knew that the tea of which he partook contained poison, and that he immediately took measures to counteract the effect of the acid, by the use of remedies. It is, however, necessary to state, that the guilt of the accused party in this case was not legally proved.

The above brief details will, we think, be sufficient to prove that, contemporaneously with the increase in the number of popular novels, histories, and reports of criminal trials, all based upon the subject of poisoning, and all tending more or less directly

to furnish the public with a complete insight into the modes which have been adopted by the most subtle and atrocious criminals, in all ages, to destroy the lives of their victims by secret and insidious means, there has occurred not only a most extraordinary increase in the frequency of the crime of poisoning, but also a manifest alteration in the means employed by the criminals to effect their fatal designs—an alteration which can only be attributed to an increased knowledge of the power of poisonous drugs, and an enlarged acquaintance with the means which were employed in former times by the most cautious and well-informed of the class of poisoners.

The importance of this subject is too great to admit of its being hastily dismissed; we shall therefore again return to its consideration, with a view to point out the measures which ought to be adopted by the profession and by the public, to prevent the extension of this great and increasing evil.

Rebirths.

The Potato Plant; its Uses and Properties: together with the Cause of the Present Malady. The Extension of that Disease to other Plants, the Question of Famine arising therefrom, and the best Means of averting that Calamity. By ALFRED SMEE, F.R.S., Surgeon to the Bank of England, &c. 8vo. pp. 174. London: Longman and Co. 1846.

We learn from Mr. Smees's preface that the principal cause which induced him to undertake to investigate the disease which has for some time past been working such extensive destruction in our potato crops, was the failure of previous inquirers to afford a sufficient explanation of the primary cause of the epidemic, backed by a conviction that no person could be better fitted to obtain the solution of this knotty

point than a practical surgeon! He observes:—

"The investigation into the nature of an universal disease among organic bodies belongs especially to the practical surgeon. He is investigating disease in every hour of the day, and every day of his life. He is accustomed to weigh the various difficulties which arise in the investigation of a complex organic body; and, on that account, he is peculiarly suited for the discovery of the cause of an universal malady. The disease in the plant is a death of the vegetable tissue, and the questions of life and death especially pertain to the business of a surgeon."

Incited by this ingenious, but somewhat fanciful, train of reasoning, the author undertook a practical investigation of the disease; the results of this inquiry are stated in the present volume apparently with much accuracy, and with an elaborate technicality of detail of which no professed botanist or entomologist need feel ashamed.

The ardour with which Mr. Smeë appears to have conducted his research unquestionably deserved success, although some of the quarters in which he obtained his information would certainly, at first sight, appear to afford literally a very barren field for the investigation of ordinary agriculturists: thus the author proceeds to state that—

"The business of a surgeon is essentially locomotive, and his duties are practised over an extensive space. It frequently happens that I have to traverse London in two or even more directions in a single day, which circumstance has given me abundant opportunities of making my observations in different localities."

Where will not a really enthusiastic searcher after truth obtain materials for observation? Before perusing the above passage, we certainly did believe that London, with its sooty atmosphere, its crushing traffic, and its muddy soil, covered in almost every inch of its superficies with buildings, pavements, and active feet, was not altogether an eligible spot for the practical investigation of botanical questions: we now perceive our error, and we can readily picture to ourselves the author pursuing his researches with all the ardour of a Rawleigh, now examining specimens of the "red kidney" tubers which he had just succeeded in discovering in the wilds

of St. Giles's-in-the-Fields; now retracing his course to collect a portion of the vegetable produce of Long-Acre, and afterwards concluding his day's investigation by a general survey of the "Yorkshire Whites," "Girkin Browns," and "Bellows noses," which are accumulated in the highly cultivated region of Covent Garden. In addition, however, to the means of observation afforded by the above rural districts, the author mentions that "during the summer months he was living at Springfield, Upper Clapton, where he had the advantage of a large garden wherein were several plots of potatoes, which he was in the habit of observing the first thing in the morning, and the last thing at night. In the neighbourhood, moreover, were larger potato grounds, where he used to enjoy the air, and study the disease in the evening; and he adds, "and it has curiously happened, that I have made my observations on the potato plant in the same garden in which I conducted the experiments for my former work, on 'Electro-Metallurgy.'"

We regret that we cannot altogether perceive in what precise respect the above coincidence deserves to be regarded either as curious by the author or as interesting to the reader. We trust, however, for Mr. Smeë's sake, that the garden in which he has investigated the pathology of the potato, may hereafter become as famous as the orchard in which Newton discovered the mystery of the fall of a pippin:—but time alone can decide this. Seriously, however, we conceive that the public has nothing whatever to do either with the number of the author's professional engagements, or with any details of his private arrangements.

Mr. Smeë's investigations have led him to conclude, that the potato plant "is subject to death at various parts, or a sort of vegetable gangrene. This death, in the form presented by the present disease, is influenced, but not caused, by heat, light, electricity, moisture, soils, and manures. It is, however, caused by the *Aphis Vastator*" (a winged insect, called by Curtis the *Aphis rapæ*), "which punctures the leaf, sucks the sap, and destroys the relation between the leaf and the root, thus causing the leaf or some other part of the plant to become gangrenous, or, in other words, to die.

The author makes the following suggestion for the removal of this pest: "It is not pretend to have been proved whether of agricultural value or not, to believe that the use of these plants are neither of any medicinal nor of a very practical value."

"The disease may probably be lessened or even cured, and destroying the plants to a great extent is possible, by excavating roots for that purpose, by burning infected tubers, and isolating from each variety of plants liable to be affected by the disease. A diseased plant may possibly be separated from future to the disease, by leaving it for some time to revert to nature, a possibility to the wild state, which is to be effected by growing it in dry places from a shoot or cutting of the stem, or a small piece of sound potato, by applying to it a little manure, plenty of light, and selecting a sandy or peaty soil, and warm situation, the object being to obtain a sufficient quantity to develop a fibre, and to separate over-abundant and very rapid growth."

Our readers will doubtless be as curious as we were to ascertain the manner in which *birds* will be employed to counteract the ravages of the aphides, and what particular class of ornithological bipeds would be most likely to consent to be enlisted in such a service. The following sentence affords the only elucidation of the difficulty that we have been able to discover in the chapter on "Natural Remedies":—

"Ducklings, which delight in eating little insects, would also doubtless devour these destroyers of human food" p. 127.

This suggestion is certainly new, but it is not altogether unparalleled; it is very similar to that conceived by the celebrated princeps, who, being asked of his subjects, "what, rather than these things, people would do well to do," he replied, "feed swans and ducks."

The author's suggestion affords an idea which is not altogether new, as Mr. Smeeth, in his *Practical Principles of Agriculture*, p. 127, says: "For a long time, it has been known upon what principles the disease is based, and the author's suggestion is the original method. For certain diseases does not appear to have been universally recognized. Dr. Lindley, an eminent authority on this subject, declares that 'an

aphis does not cause the potatoe malady,' and he even states, 'that aphides cannot destroy plants.' This assertion, made by one of the Commissioners appointed by Government to inquire into the nature of the potatoe malady, has given great umbrage to our author, who, as it appears from a number of the *Times* newspaper, of December last, which is now before us, addressed a letter to the Prime Minister, requesting to be informed 'whether the writings of Dr. Lindley are now to be taken as the opinions of an individual writing on his own behalf, or whether he holds any appointment which gives to his assertions an official character.' To this inquiry, the Premier replied very expeditiously and justly, 'that Dr. Lindley is responsible for his own opinions.'

We have perhaps scarcely done him justice in certain portions of Mr. Smeeth's work, owing to the circumstance of our attention having been drawn to the infelicitous style in which some of his introductory observations are couched, as well as to the decidedly objectionable manner in which the author has argued the question in the public prints. Still, the treatise bears evidence of great labour and research, and contains many interesting and useful facts. The question with regard to the influence of the mounds in producing the disease, is, we apprehend, by no means difficult to solve, and we trust that it will be thoroughly and fully investigated in various parts of the country.

Relations of the Physician to the Sick, to the Public, and to his Colleagues. By the late CHRISTOPHER WILLIAM HOWLAND, M.D. 2dmo. pp. 37. Oxford: Parker, London: Chancery, 1846.

In a recent number* we gave a short notice of the *Life of Dr. Cheyne*. The pamphlet now before us is a continuation of the series, and is especially deserving of the attention of students and practitioners. It is a summary of medical deontology or of medical ethics practically applied. The only fault is, that it is too concise, especially in that section which is devoted to the relations of the physician or practitioner to his colleagues. Nevertheless, every

page is suggestive of the important duties which are attached to the medical profession; and every paragraph brings before us some rule or maxim, the frequent violation of which is a fertile source of bitterness of feeling and jealousy among medical men. The *ira medicorum* are, in almost all instances, to be traced to a captious desire to take offence where no offence was intended, or to an overweening conceit which leads some to claim rank and precedence from other sources than those which are due to knowledge, experience, and long standing in the profession. What medical men require is, a little more charity towards each other; and we do not know that they can consult a better authority for their guidance than Hufeland, who, by his position as a physician and a man thoroughly acquainted with the world, had a good title to draw up a code of medical ethics.

We well remember that one of the most eminent French surgeons never alluded in his lectures to the practice of his colleagues, equally eminent, without calling them "*brigands*," "*cochons*," or by some equivalent slang term supplied by the French vocabulary. We do not go quite so far as this on this side of the Channel; but there is, nevertheless, sufficient evidence in the frequent occurrence of medical quarrels and controversies, that there is a great want of liberality of feeling among English practitioners, and, in some instances, a total ignorance of their proper relations to each other and the public. On this subject, Hufeland makes the following appropriate remarks:—

"The first (relation of the physician or practitioner to his colleagues) embraces mutual respect, or, when that is not possible, the letting at least indulgence be the principal law of conduct. Nothing is more difficult than to judge others; but nowhere is it more so than in the practice of medicine. It is therefore unpardonable in the public; but it is revolting to hear physicians, who know the difficulties of the art, and of forming opinions regarding it, judge their colleagues with severity, harshness, and contempt, or disclose their faults, and try to raise themselves by lowering others.

"Oh! that I were able to impress the minds of my brethren as forcibly as I am penetrated by it, that *he who degrades a colleague degrades himself and his art*. For, in the first place, the more the public

becomes acquainted with the faults of physicians, the more will physicians become exposed as contemptible and suspicious, and the more will such exposure impair confidence; and, when confidence in the whole body is diminished, each member, and the censorer included, will lose a share of it. The public would be less prone to censure the medical profession, and *its faults would not be a favourite topic of conversation, if the members themselves did not broach it, and set the bad example*. It shews a short-sighted selfishness and want of all common spirit when a physician acts in such a manner, and thereby hopes to raise himself in the same proportion as he degrades others. Further, such conduct is in opposition to the first principles of religion and morals, which commands us not to lay bare the faults of others, but to overlook and excuse them. Such a character will be more lowered in the esteem of sensible men than he whom he endeavours to degrade; for the detracted loses only as an artist, while *he loses as a man*, and a bad action is esteemed worse than a bad medical treatment. Finally, they should reflect that the same measure they apply to others is applied to themselves. He who treats others in a harsh and haughty manner may rest assured that he will be dealt with in the same way, which is but justice. Modesty in conduct and judgment becomes every one,—most of all, a young physician: it will procure him friends and opportunities of instruction, and promote his external interests as well as his internal improvement.

"The medical art is still far from that degree of perfection and certainty which would enable us to pronounce sentence on all methods of curing diseases; we do not yet possess a legitimate universal code; every one is still at liberty to form his own views about the human system and its treatment, provided they are not against reason and experience. Nobody will deny that cures may be effected in quite different ways, and that the apparent contradictions in treatment may be resolved into unity by the various operations of the organism. Organic nature is not confined within such narrow limits as are our systems: if it were so, one after the other would not have had its ascendancy and been applied with success. After all, our experience, and the results rightly derived therefrom, are the only true and constant rules to be followed in medicine; and the longer and the more sagaciously a physician has observed the operation of the living organism against the influence of the external world, and especially the influence of medicaments,—the more he has learnt to appreciate the powers of the latter, and to use them with adroitness,—the more perfect physician has he

become. Let every one, therefore, have his own system—his own view of things; and especially let the young practitioner feel happy to possess the newest and most finished theory, and to be able to make deductions according to the rules of the school; *but none must believe that he alone is in possession of truth; he must respect the opinions of other physicians, particularly of old ones, matured in experience,* and he must often admonish himself that he who believes himself sage is only on the threshold of art, and that to doubt, and to search for that which is unknown to us, is the surest sign, and, at the same time, the only means, of proficiency." (p. 25).

We totally dissent from the advice of the author that the practitioner should conceal from his patient the danger or even fatality of his situation. He need not volunteer opinions to produce depression of mind or despair; but, when required, he should be prepared to state the truth,—to act with candour, and without dissimulation. To put it upon no higher ground, the temporal interests of relatives and friends have often been irretrievably damaged by practitioners acting upon the Machiavellian principles suggested by Hufeland. Taking the pamphlet as a whole, it is, however, well worthy of perusal by every practising member of the medical profession.

The London Medical Directory, 1847.
8vo. pp. 288. London: Churchill.

We are glad to welcome the appearance of this annual volume, and to perceive that in the hands of its present editor, it undergoes progressive improvement. This year we have in addition to the usual list of metropolitan practitioners, with their addresses, qualifications, and an account of their literary productions, some remarks on professional etiquette, fees to medical witnesses; and a useful almanack containing an historical register of eminent medical men, with a reference to the evening meetings of the numerous medical and scientific societies. There are also appended a full obituary, a list of all the principal English and foreign medical works published during the year, and an account of the different Colleges and the Charitable institutions of the metropolis. This short description will show that the Directory is almost indispensable to the metropolitan practitioner.

It at present supplies the place of a legal register, and enables every medical man to acquire some knowledge of the professional standing and qualifications of those who are around him. From its great and obvious utility this volume deserves the success which we believe has attended those which preceded it.

Proceedings of Societies.

ROYAL INSTITUTION.

January 22, 1847.

Professor Faraday on Gunpowder.

THE Professor observed that much had been lately said respecting Schönbein's gun-cotton, and at the previous meeting this curious discovery had formed the subject of a lecture by Mr. Brande. Under these circumstances, he thought it only fair to come before them on this occasion, and put in a claim for gunpowder. Gunpowder was nothing more than a mechanical mixture of three substances, nitre, sulphur, and charcoal, each harmless in itself, and producing no particular phenomena when an ignited body was applied to it. When, however, these substances were reduced to a fine powder, and brought into close proximity by trituration, the most extraordinary effects resulted on the application of any ignited body. The black solid was instantly converted into gaseous matter of enormous bulk, compared with the mass of powder producing it, and possessing a power of overthrowing and rending asunder everything which opposed its expansive force.

Although a mechanical mixture, it was necessary to observe certain proportions in mixing the materials, or the maximum effect could not be obtained. One hundred parts of good gunpowder consisted of 75 nitre, 15 charcoal, and 10 sulphur. The materials were merely well mixed by the agency of water, and a perfectly homogeneous paste was obtained, from which the gunpowder was afterwards procured. The name given to this substance was inappropriate, since it could not be considered as a powder; on the contrary, when properly prepared, it consisted of distinctly rounded grains, having a polished surface, and leaving, in consequence of this spherical structure, an enormous interspace filled with air. This was highly important with regard to its properties, as would be hereafter explained.

Each constituent of gunpowder had its own mode of action. The nitre furnished oxygen, the carbon furnished gaseous matter, and served to maintain a high temperature;

while the sulphur tended to spread the heat with greater rapidity throughout the mass. The action of nitre was illustrated by dropping a piece of ignited charcoal into a flask containing this salt in a melted state: the charcoal continued to glow and burn at the expense of the oxygen of the nitric acid for a considerable time, and volumes of gaseous matter poured from it. The action of sulphur was shown by projecting a small portion of a mixture of one part and a half of charcoal to one of sulphur through the flame of spirit, when there was a uniform sheet of flame produced during the burning of the charcoal. When the charcoal was projected separately, it burnt in small detached scintillations. Some gunpowder was fired in air; and it was thus proved that the whole was converted into gaseous matter, the white vapour being sulphuret of potassium.

The quantity of gas evolved from gunpowder was shown by plunging an ignited fusee under water and collecting the gases in a glass vessel inverted. The volume of the gases thus obtained, was many hundred times that of the gunpowder producing it, and its bulk was still increased by the high temperature of explosion. The chemical nature of the gases produced, might be inferred from the composition of powder. Taking the proportions above given the following equivalents would represent the relative proportions of the constituents of the gases. Potassium 1, oxygen 6, carbon 3.4, sulphur 0.85. The nitrogen with the carbon and oxygen as carbonic acid and carbonic oxide, represented the gases, while the sulphur united to the potassium. So complete was the combustion that even the potash of the nitre gave up its oxygen. The mode in which the oxygen of the nitre maintained combustion was beautifully illustrated by collecting near a portion of powdered nitre, a quantity of the pyrophorus of tartrate of lead, and suddenly mixing them,—a violent combustion ensued, in which even the lead was burnt.

Gunpowder might be exploded by percussion. The Professor had even fired it by percussion between two pieces of copper: it was, however, much more difficult to explode it in this way than fulminating mercury or even gun-cotton: hence it might be more safely kept, and would admit of more handling than the latter. Gunpowder required a much higher temperature than gun-cotton for its explosion. A portion of gunpowder was gradually dropped into a wide flame of spirit, but it did not explode on contact with the flame; it fell through and collected in the saucer. The flame was then extinguished, the unconsumed spirit poured off, the vessel gently heated, and the gunpowder was obtained in a dry mass below:

it was then exploded by a heated wire. On dropping iron filings into the flame they became white hot, and burnt on contact with it. That a higher temperature was required for the explosion of gunpowder than of gun-cotton, was further proved by heating a wire in a flame, placing it on a mass of gunpowder, which did not ignite, and then passing it rapidly onwards to a mass of gun-cotton, which immediately exploded. The Professor remarked, that there was a great difference in the products of the two substances, when burnt in the open air,—the gases derived from gunpowder had a very high temperature, but this was not the case with those resulting from the combustion of gun-cotton.

The mere contact of flame will not readily ignite gunpowder. A quantity of powder being placed on a plate, a gas flame was passed repeatedly over it without igniting it; and when it was allowed to remain playing on the powder, several seconds elapsed before this exploded:—in fact, it remained quiescent until it acquired the high temperature requisite for its combustion. It was important, however, to state, that the raising of the temperature of the smallest particle would suffice to kindle the whole mass: it was by no means necessary that all the particles should be simultaneously heated. The heat given out, in its own combustion, was sufficient to convert the whole into gaseous matter, and to expand the gases to such a degree as to render them equal to from 3500 to 3800 atmospheres. The cause of the rapid explosion of ordinary gunpowder was, that when one particle was kindled, the heat and flame rapidly spread through the interstices of the little spheres, and raised the temperature of each. If the kindled particle were below, the flame spread upwards, if above, downwards; and each grain was, therefore, wrapped in a sheet of flame, at a high temperature, within a very short interval of time. Nevertheless, compared with fulminating compounds, the explosion was not instantaneous but gradual, the clear interspaces between the little spheres allowing the flame to penetrate the whole mass, and thus to act with a progressively increasing force upon the projectile. Supposing these interstices to be filled up, and the particles to be closely packed so as to be everywhere in contact, the explosion is slow, the gunpowder then burns only on the surface, and so it continues upwards or downwards until the whole is consumed. A piece of gunpowder, in lump, was ignited: it burned rapidly, but without sudden explosion, gave off torrents of gas, and moved from the part where it was placed, being carried backwards by the force with which the gas was evolved. The fuses used for exploding bombs were nothing more than wooden cases,

containing gunpowder closely packed and rammed into them. When one of them was ignited, it burnt steadily, without explosion. Had the wooden tube been filled with gunpowder *grains*, the whole would have been blown to pieces. These facts accounted for many curious and apparently anomalous results obtained with gunpowder. The same material which burnt slowly like a fusee out of a paper case, would sometimes explode suddenly when confined in one. This was well known in pyrotechny, although the cause might not be understood. A cylinder of gunpowder, closely pressed, was taken from a case and ignited: it did not burn with explosion, but was steadily consumed like a fusee from the ignited end. When a similar cylinder was ignited in its paper case, the whole suddenly exploded. The Professor explained this by stating that the gunpowder, when ignited at the mouth of the case, stretched or expanded the sides of the paper tube, and the flame could then travel along the whole surface of the cylinder of powder, and thus heat to a high temperature every portion at once. Accidents might arise from an ignorance of this principle. The miner's fusee formed a familiar illustration of the effect of mechanical compression on the explosion of gunpowder. A long channel was made by stretching pieces of string side by side, so as to form a kind of trough. This was then filled with gunpowder. If in this state one end were ignited, the whole would explode; but the miner, wishing the fusee to burn slowly and steadily, winds iron wire firmly round the strings, so as to compress the grains of gunpowder into the closest possible contact. A complete cylinder of metal, enclosing gunpowder, flexible, and easily cut to any length for blasting purposes, is thus obtained. Professor Faraday here produced one of these fusees. Two equal lengths were then taken: one piece was fired at the end, and the powder burnt steadily through from end to end without explosion; the other piece was cut open, the powder shaken out, and a heated wire applied to it, when the whole suddenly exploded;—thus proving that the powder had undergone no change, but that the difference in the results was merely owing to the mechanical disposition of the grains. By this simple arrangement, flame might be made to traverse water: the prepared fusee was coated over with bituminous matter, to render it impermeable to water, and it was then fit for use. This fact was beautifully illustrated by bending a long piece of miner's fusee across a bath full of water, the two ends of the fusee projecting over the opposite ends of the bath. A heated wire was applied to one extremity, and the gunpowder continued to burn slowly; it traversed the water, and, after a short interval,

the combustion was made manifest by the appearance of flame at the other end, and the entire consumption of the powder.

The connecting pieces of the pyrotechnist were made alternately to burn and explode on a similar principle. If a long narrow cylinder of paper were filled with powder, and the gunpowder compressed by tying the cylinder tightly at certain lengths, an alternate effect of combustion and explosion resulted. This was experimentally shown. The common cracker was another familiar instance, but here no other means of compression were employed than that arising from merely bending closely and firmly one part of the paper cylinder on another. In each straight piece of cylinder there was explosion, at each angle or bend there was combustion. The slow combustion of powder by compression and consolidation, was made a source of motion in the rocket, which consisted of a cylinder of compact powder, enclosed in a case, and hollowed out in the centre by a conical mass being plunged into it. This presented a much greater surface than if merely one extremity was ignited; and there was a proportionately rapid evolution of gas, which, reacting on the air, caused the rocket to ascend.

It has been stated, that the explosion of grain gunpowder is gradual and progressive; hence its force on a projectile is measured by the length of time which it has the power of reacting on it: and where resistance is offered for some time, the combustion is more complete, and the quantity of gaseous matter evolved, greater. In short-barrelled pieces the projectile is not carried far, and much of the powder escapes combustion; in long barrels these conditions are reversed. This progressive explosion renders gunpowder more certain and regular in its effects than gun-cotton. A body which is very suddenly explosive is apt to shatter the parts immediately in contact with it without conveying an impulsive force; hence all fulminating compounds are unfitted to act as substitutes for gunpowder. They would shatter the piece instead of throwing the projectile out of the barrel. This accident has occurred with gun-cotton, which approaches nearer to the character of a fulminating compound than gunpowder, and therefore renders caution necessary in its employment. The Professor here shewed the barrel of a gun which had been completely burst and splayed open by a comparatively small charge of gun-cotton, although the piece had been well proved by gunpowder. The accident could only be ascribed to the suddenness of explosion: it had produced serious injury to the individual. This remarkable property of fulminating compounds was illustrated by some experiments with the iodide of nitrogen, a body which, when

dry, explodes by mere contact with air or water in letting it fall. A few grains were put on a plate, and touched rather sharply by a wooden rod. The plate was shattered. Some more of the iodide was put on a plate and touched gently; the plate was not shattered, but a circular and tolerably regular hole was blown through it at the point of contact. A portion of the thick end of the stick used in the performance of this experiment was also blown off, although the Professor stated that not the slightest impulse or upward shock was perceptible to his hand while holding the stick, the cause of this being that motion is instantaneously given to those particles only which are in immediate contact with the fulminating body, and they are rent by mechanical force before this motion can be uniformly distributed through the mass. Some plates were shown in which four and five distinct holes had thus been produced by separate explosions of the iodide of nitrogen without fracturing the plate. Hence, on firing gunpowder between two layers of card, the upper layer was raised. On discharging the iodide of nitrogen in the same way, no motion was given to the card, but a hole was blown completely through it.

WESTMINSTER MEDICAL SOCIETY.

Saturday, Jan. 23, 1847.

MR. SAYER, PRESIDENT.

DR. SNOW placed on the table an
Apparatus for Inhaling the Vapour of Ether.

It consisted of a round tin box, two inches deep, and four or five inches in diameter, with a tube of flexible white metal, half an inch in diameter, and about a foot and a half long, coiled round and soldered to it. There was an opening in the top of the vessel, at its centre, for putting in the ether, and afterwards attaching the flexible tube belonging to the mouth-piece. In the interior was a spiral plate of tin, soldered to the top, and reaching almost to touch the bottom. When used, the inhaler was to be put in a hand-basin of water, mixed to a particular temperature, corresponding to the proportion of vapour that the operator might desire to give; and the caps being removed, and the mouth-tube attached, when the patient began to inhale, the air would gain the desired temperature in passing through the metal pipe; it would then come upon the surface of the ether, where it would have to wind round three or four times before entering the tube going to the mouth-piece, thus ensuring its full saturation, and preserving it at the desired temperature. There was no valve, or any other obstruction to the air, till it reached the mouth-piece, which was of the kind used in other inhalers, and

contained the valves necessary to prevent the return of the expired air into the apparatus. Dr. Snow said that it had been applied, in one case, at the temperature of seventy degrees, and had produced the effects of ether, very powerfully, in half a minute. In answer to a question, he said that ether, when sufficiently pure to be inhaled, would not act on tin or other metals.

Dr. W. MERRIMAN narrated the following case:—A boy of delicate constitution, aged 8, was brought to him at the dispensary, on October 7th, for headache, and was ordered a slight aperient and saline mixture. On Oct. 10th, deafness set in; but he was not seen till the 12th, when confection aromat. was ordered for a diarrhoea. He was very stupid, and passed his motions involuntarily, although this was not stated at the time; he could answer correctly, if spoken to loudly and clearly. Dr. Merri-man then heard that he received a blow on his head about ten days before he became deaf: though the story the patient gave of the manner of receiving the injury has proved to be incorrect, in reality he had been pushed down some steps on September 29th, and was picked up insensible; but this was not known till after his recovery. The diarrhoea continuing unabated, and his strength declining, chalk mixture and kine was given every six hours, and in a week's time had restrained it entirely. On this day, he appeared to revive, as if coming out of a state of recent concussion, but speedily relapsed, and became more and more insensible, accompanied by incessant tossing of the body in every direction, rolling of the head, and screaming, so as to allow no one in the house to get any rest. After clearing the bowels, calomel was assiduously given every six hours, in doses of two grains, combined with one grain and a half of Dover's powder, for fear of re-exciting the diarrhoea; and after about thirty-six grains had been thus taken, the bichloride of mercury was prescribed, one-eighth of a grain every six hours, for two days, and subsequently one sixteenth, in the almost vain hope of removing the effusion which appeared to have occurred: this treatment proved most satisfactory, consciousness returned by degrees, as also eyesight, which remained injured the longest. A relapse took place during the recovery, from the bowels becoming loaded with foul secretions, but was presently removed, and he rapidly regained his health. The case appeared to Dr. Merri-man to be continued fever, with aggravated head symptoms, on account of the concussion, and he asked the Society's opinion upon this point, as also if there had been any effusion, or only congestion. A brother of the patient was ill at the same time with

fever, and two sisters had subsequently been seized. The house they lived in was most offensive, from want of proper drainage. He was also confirmed in his opinion by the return to consciousness three weeks precisely after the deafness first showed itself.

In the discussion which ensued on this case, it was generally considered that the symptoms clearly indicated it to be one of concussion of the brain. Some comments were made by several speakers on the mode of treatment employed, and the evening was concluded by remarks on the treatment of concussion generally.*

MEDICAL SOCIETY OF LONDON.

Monday, January 18, 1847.

MR. BISHOP, PRESIDENT.

Nature of Ovarian Tumors.

IN reference to the discussion on the previous meeting of the Society, the President requested the opinion of Dr. Frederic Bird as related to the questions of the malignancy of ovarian tumors, and the probable duration of life in those affected with such form of disease.

Dr. FREDERIC BIRD said that he was not disposed to advance the position of all ovarian tumors being referable to a malignant type, but he believed that the majority of them bore a very close relationship to malignant disease, and that it would probably be more easy to establish a still nearer affinity, were it less difficult to give a correct definition of malignancy. Without alluding to those forms of ovarian disease commonly admitted to be malignant, he was inclined to believe that nearly all were associated with a tendency to become so, and that such tendency could be traced in many of the most simple varieties of ovarian growths; that although a large class of cases had been described as belonging to a simple and unilocular type, he had very rarely met with such examples, as in almost all the examinations he had made of what were termed unilocular cysts, secondary and tertiary cysts were present; in many instances the secondary cysts were very small, and commonly occupied the basic portion of the parent sac; in others they were of much larger size, and in some completely filled up the containing cyst; but in all appeared to rise from the structures subjacent to the lining membrane of the parent sac, which thus became completely reflected over the secondary cysts; that perhaps all were essentially compound in structure, and that each component cyst had the property of developing other cysts in its cavity, and thus gave rise to the often rapidly increasing size of the large hard masses frequently observed

after the withdrawal of fluid by paracentesis. Not unfrequently the development of such secondary growths occupied but a very short period, and he had seen many cases, in which, after the first tapping, little or no solid matter could be felt; at a second tapping, less fluid had been removed, and a larger solid growth detected; whilst, after repeated tapplings, the whole of the cavity of the parent sac had become filled by myriads of cells, containing serous, mucous, colloid, and often purulent or muco-purulent secretions. In their compound structure, in the manner of their growth, in the frequent rapidity of development, and in common association of fungoid and cerebriform degeneration, some evidence might be found of the relationship of ovarian tumors with other diseases admitted to malignant. He could not accord in the opinion that had been expressed in reference to the duration of life in those affected with ovarian disease. Statistical evidence derived from his own cases gave but three years as the average duration of life, and such result was supported by reference to hospital records, as well as by the written opinions of those who had recently investigated the subject. He was quite prepared to admit that exceptions were occasionally to be met with, but they were comparatively rare; and that some, at least, of such cases, were not examples of true ovarian tumors, but consisted of cystic collections of fluid contained in the broad ligaments, and not involving the structure of the ovary itself.

Dr. OLDHAM did not regard the average duration of life in ovarian disease as being so short as had been stated, and alluded to cases in which the patients had lived on for a much longer period. He inquired as to the cause and seat of ovarian tumors, and expressed his belief that, in their incipient stage at least, they might be capable of removal by remedies; and he narrated a case in which ovarian tumor had, under the influence of local depletion and general remedies, remained stationary. He was opposed to the opinion of the malignancy of ovarian disease.

Dr. F. BIRD remarked, that in the table of cases he had referred to, he had assumed the duration of life as extending from the period of abdominal enlargement to the time of death. It was possible that the primary stage of ovarian tumor, in which the small size of the morbid growth allowed it to remain within the cavity of the pelvis, and hence in many cases not detected, might be slow; but that he had not included the time occupied by such stage of incipience in the results he had given. With reference to the etiology of ovarian tumor, he believed that ovaritis was a common cause, and that the same influences which might produce such

* Erratum last week—for Dr. Snow saw, read heard, &c.

disease might also give rise to the formation of tumor.

Dr. CHOWNE spoke at length in reference to the evidence afforded by statistical records, and objected to the data employed, inasmuch as fatal cases alone had been included; and he had seen examples, to four of which he referred, in which ovarian disease had existed for many years, unassociated with any great impairment of the general health.

Dr. CLUTTERBUCK coincided in the view that it had been expressed of the frequently inflammatory origin of ovarian tumors, and believed that much good would often result in the earlier stages of disease, by the careful employment of antiphlogistic measures; and he adduced a case in which frequent small bleedings from the arm, aided by other general antiphlogistic remedies, had been of marked benefit.

Some further discussion ensued, in which Dr. Waller, Mr. Clarke, Dr. Chowne, and Dr. Oldham, took part, and the Society adjourned.

PATHOLOGICAL SOCIETY OF LONDON.

JANUARY 4, 1847.

Dr. WILLIAMS IN THE CHAIR.

Dr. LLOYD exhibited

A Fetus seven months and a half old, having a Deficiency of either External Auditory Meatus.

A prolongation of delicate cuticle was observed in the normal situation of the orifice. On dissecting away this flap of skin, the bone beneath presented a similar deficiency of an external opening. The child, who came under the notice of a friend of Dr. Lloyd's, was born alive, and died from hæmorrhage, owing to the midwife forgetting to tie the umbilical cord. It was the fourth child of the same parents; no hereditary disposition to the malformation could be traced.

Mr. TOYNBEE remarked that he had at present under his care a case of similar malformation of the cutaneous opening in the external ear. From various experiments, it had been proved by the parents of the child that it had the faculty of hearing. In reference to the present case, Mr. Toynbee, with the permission of Dr. Lloyd, undertook to make a careful dissection of the brain and internal ear, the result of which would be communicated to the Society.

Mr. WILLIAM ADAMS exhibited a specimen of

A peculiar form of Tumor of the Uterus, taken from a woman aged forty-six, of in-

temperate habits, who had died after amputation of the hand, which had been affected with dry gangrene from arteritis.

In the examination after death, the heart was observed large, flabby, and thin; the valves healthy; slight atheromatous deposit in the thoracic and abdominal aorta. The left axillary artery was filled with a fibrinous plug three inches in length; below this, the vessel was pervious and healthy for two inches and a half, where a large branch was given off, immediately after which it diminished to nearly half the size of the healthy portion, and continued so to the bend of the elbow. On being laid open, this portion presented a deep blood-red colour, with small flakes of lymph on its surface; the coats were unusually soft, and the vessel broke just above the bifurcation, though removed with care. Radial artery very small. Liver in an advanced stage of fatty degeneration. The cavity of the pelvis was occupied by a tumor which rose into the abdomen, and which consisted of the distended uterus, inclosing a tumor of a circular form, measuring five inches in diameter. It had been developed in the muscular structure of the posterior wall of the uterus, nearer to its internal than external surface; a very thin layer of muscular fibre separated it from the cavity of the uterus, which was enlarged, though its sides were approximated by the pressure of the tumor, which on its outer surface was covered by a muscular layer half an inch in thickness. The substance of the tumor presented an opaque, milk-white appearance, of the consistence of the mammary gland. In some lobes, when the anatomical arrangement was most evident, it seemed composed of separate bodies, of various form, contained in and connected with the parietes of cysts. The section presented none of the ordinary appearances of the hard fibrous tumor of the uterus, and under the microscope but a small amount of fibrous matter could be shown. It seemed made up of minute granular matter, with a small amount of wavy filamentous structure. No distinct nucleated cells were discoverable. The tumor appeared much to resemble the sero-cystic tumors of the breast in a late stage, as described by Sir Benjamin Brodie, and was, in the opinion of Mr. Adams, a good illustration of that class of adventitious morbid growths described by Dr. Hodgkin, in the fifteenth and twenty-sixth volumes of the *Med. Chir. Trans.*, as developed in the type of compound serous cysts.

The preparation is in St. Thomas's Hospital.

Dr. ROBERT BARNES exhibited a specimen of

Valvular Disease of left side of the Heart, which had occasioned Sudden Death.

The following are the particulars of the case :—

A woman, aged sixty, died suddenly ; was not seen during life. All that was known of the symptoms was, that she had had oedematous feet.

Dr. Barnes assisted Dr. Waggett to perform the post-mortem examination for the inquest. General condition of the body emaciated. The brain and membranes presented nothing remarkable, with the exception of some old adhesions of the arachnoid, on either side of the longitudinal sinus, to the convolutions of the brain. There was no congestion. The lungs presented nothing remarkable, with the exception of a slight tubercular deposit in the apices, and slight parenchymatous emphysema. There was no congestion, and very little hypostatic congestion in the depending portions. The liver was granular, not congested. The remaining organs of the abdomen were in the natural condition. All the cavities of the heart were filled with blood, a part of which, on both sides, was contracted into polypoid concretions. The large vessels near the heart, both venous and arterial, also contained blood. The mitral and aortic valves exhibited ossific deposits, and closed imperfectly, and hypertrophy of the left ventricle showed that there was regurgitant disease. There were also ossific deposits in the aorta. The right side presented nothing abnormal. The weight of the heart, after macerating five days in water, was thirteen ounces.

The chief point of interest to which Dr. Barnes wished to call the attention of the Society, was the repletion of the cavities of both sides of the heart with blood, considered as a proof of death by the heart. This is the condition described both by Bichât and Devergie as being the result of death by the whole heart. Dr. Barnes had examined three other cases of sudden death in which the heart was diseased, and similar accumulation of blood was found.

January 18th, 1847.

Dr. GEORGE JOHNSON exhibited

A Specimen of Diseased Kidney.

The subject of the disease was a cat, and the following was the history of the case :—The animal had for some days been inactive, and drowsy ; she was then seized with convulsions, followed by coma and death. The kidneys were about twice the normal size, much congested, and presented to the naked eye an abundant yellowish white deposit in the cortical substance. Under the microscope, the urinary tubes were seen to be uniformly and greatly distended with oil globules. Dr. Johnson stated that he had frequently examined specimens of fatty dege-

neration of the kidneys from this class of animals, and he had found the microscopical examination of them very easy and satisfactory, on account of the delicacy and transparency of the tissues. He invited any members of the Society who were interested in the subject, to take portions of the kidney for microscopical examination, and he did not doubt that such an examination would satisfy them as to the essential nature of the disease.

In answer to questions from Mr. Toynbee, Dr. Johnson stated that he had not an opportunity of examining the urine of the animal ; he examined the blood-vessels of the kidney : they were much congested, he believed in consequence of the compression to which they were subjected by the dilated urinary tubes ; from the same cause, some of the Malpighian vessels had given way, and the tubes had become filled with blood. He had frequently examined the healthy cat's kidney, and found in it a minute quantity of oil, but infinitely less than in the disease in question.

Dr. BENTLEY then read a communication from Mr. Francis Adams, of Banbury,

On the Extraction of a Large Cartilage from the Knee-joint.

The cartilage was exhibited to the Society. The following are the particulars of the case :—A farmer, aged 25, came under the care of Mr. Adams, about two years and a half ago, on account of a slight contraction of the left leg, at the knee-joint, of several years' standing. In the course of ten or twelve days, the deformity was remedied by the compound splint and screw, and the limb continued free from uneasiness till last June, when violent pain, heat, and swelling, suddenly supervened in the knee-joint ; a hard body near the head of the fibula was soon afterwards observed, which, on slight pressure being applied to it, slipped into the joint, and completely disabled him from walking for the time. Its mobility being such that it was impossible to secure it in such a position as not to impede the motion of the joint, it was removed by an incision made by a bistoury through the integuments, near the tendon of the biceps, in which situation the loose body had been previously secured. It was the size of a large flattened bean, and appeared to consist of cartilage with one smooth side, and another rough, where it seemed at one time to have been connected with one of the bones of the leg. It weighed one drachm, eight grains. No unfavourable symptom followed the operation.

Mr. CÆSAR HAWKINS exhibited a specimen of

Rupture of the Diaphragm.

The specimen was taken from a man

aged 24, who was admitted into St. George's Hospital, having fallen from a height of about twenty feet. He had fractured both arms, and sustained other injuries. On the day after admission, he complained of a fixed, defined pain on the left side, a little below the hypochondrium; this was accompanied with slight hæmatemesis, and inability to take food. He appeared to progress favourably till the ninth or tenth day, when sudden prostration supervened, from which, however, he rallied. Similar collapse, after a few days, again returned, and continued to do so, at two or three distinct periods, till about the tenth week, when he was seized with pain in the abdomen, and constipation, followed by diarrhoea, and the passage of blood by stool. This was succeeded by an acute attack of pleurisy, from which he died, in the thirteenth week after admission. He was nourished with enemata from the time of the injury to his death, the incapability of taking food by the mouth continuing without intermission.

The entire surface of the abdominal cavity appeared, on the post-mortem examination, quite black; and at the lower part was observed a large cyst among the convolutions of the intestines, which contained pus and faecal matter, and communicated with the lower part of the colon. The left pleural cavity presented evidence of very acute inflammation, there being two distinct circumscribed effusions, the one at the upper and the other at the lower part of the cavity. The latter was situated between the lower portion of the lung and the diaphragm, which presented a distinct laceration of about an inch across; and through this opening, the abscess communicated with another in the abdominal cavity behind the stomach, and bounded also by the spleen and kidney. It contained about half a pint of pus. There was a further laceration, of about six inches in length, in that part of the diaphragm forming the wall of the abscess, which, however, did not appear to have been perfect.

Mr. CÆSAR HAWKINS remarked, that the symptoms exhibited by the patient had led him to a correct diagnosis of the injury sustained, and thought that the case was of great interest as regarded the period of time the man had survived it.

Dr. WILLIAMS related the particulars of a case of

Rupture of the Oesophagus and Diaphragm, induced by violent vomiting, and in which case the contents of the stomach were poured into the pleura, producing inflammation and death. The vomiting came on suddenly, and in the act the patient fainted. He rallied, and was again attacked with fainting, accompanied with a great desire to vomit,

which, however, could not be accomplished. The ordinary symptoms of perforation came on with great intensity thirteen hours after the attack, and the patient soon sank.

Dr. WILLIAMS, in reply to a question which was suggested by a similar case in the knowledge of Dr. Norman Chevers, did not think that the perforation was a post-mortem result, as there was unequivocal evidence of very acute inflammation in the pleural cavity, which had not been affected prior to the attack of vomiting.

Mr. TOYNBEE communicated the result of his

Dissection of the Congenital Malformation of the Ears of a Child,

which dissection he had made at the request of Dr. Lloyd, who exhibited the case at the last meeting of the Society. The external ear consists of a fold of integument, having much the same shape and size as the ordinary lobe, but containing no cartilage. The external meatus is wholly absent; there is no membrana tympani, the cavity of the tympanum being a mere fissure in the bone, and containing two bones, the analogues of the stapes and malleus, the Eustachian tube opening into its anterior part. The cochlea, vestibule, semicircular canals, and auditory nerve, appear perfectly healthy.

Dr. NORMAN CHEVERS exhibited the heart of the foetus which had been examined by Mr. Toynbee, and which presented

A remarkable contraction of the Ductus Arteriosus.

This vessel was almost closed, being scarcely one-twelfth of an inch in diameter, and capable of admitting only the shank of a large pin; its coats exceeded in thickness those of any other of the large vessels; the interior of the canal was rugose, and presented a series of small pits. The tissues of the duct had altogether an appearance of having undergone a gradual process of contraction. The state of the duct proved, in the opinion of Dr. Chevers, that its closure commenced previously to birth. The contraction of the vessel was uniform. The pulmonary artery and its branches were wide and well-developed, equalling, in fact, the size of the same vessels in a full-grown foetus. The heart and lungs were normal. The foetus was born at seven months and a half, and lived only fifteen minutes after birth.

Dr. BENGE JONES exhibited a specimen of *Scrophulous Tubercles in the Pons Varolii and Cerebellum.*

The man, who was under the care of Dr. Jones, in St. George's Hospital, lived six

days after his admission, a month prior to which he stated his illness to have commenced with a cold, followed, in about three weeks, by weakness in the legs, without any decided paralysis, and slight wandering. On the day of his admission, there was no paralysis; the tongue was furred; pulse 96; pupils small and sluggish. He could give no account of himself, his whole manner appearing dull and slow. He answered with difficulty; had, however, no headache. On the following day, the motions passed involuntarily; delirium increased. This was succeeded by the left pupil becoming more dilated than the right; slight strabismus; strong pulsations in the carotids; and death by coma, without convulsions. The arachnoid was observed on inspection unusually dry; the convolutions flattened; the veins much gorged with blood; small flakes of lymph beneath the arachnoid in the pia mater of anterior part of cerebral lobes. Substance of brain firm, excepting the walls of the third ventricle, and of the cerebral substance around the canal, between the third and fourth ventricle, where the brain was completely softened. Ventricles distended with clear serum. Base of the brain had a light sub-arachnoid deposition of lymph. Left lobe of cerebellum contained several scrofulous tubercles; two, as large as a bean, in the pons varolii; one also grew from the dura mater, on the left side of the posterior fossa. Lungs permeated with miliary tubercles; small vomica in left apex. Small tubercle in each kidney.

Dr. MACINTYRE exhibited two specimens.

Preparation of an Abscess in the Cerebellum, caused by Extension of Disease of the Temporal Bone to the Meninges.

The patient, a man, had been totally deaf on the right side for sixteen years, and the greater part of that time subject to a discharge from the right ear, trifling in amount, but continual. For the last two years of his life he was troubled with headaches. In August last, he was seized with one of these attacks, in which the pain was infinitely more intense, he said, than on any previous occasion. When seen, he was found labouring under unequivocal symptoms of acute meningitis and cerebritis. He was treated actively by sanguineous depletion, mercury, blisters, and cold applications to the head, but without success. In about a week, paralysis of the right side of the face, and distortion of the mouth to the left, were observed; stupor followed, and went on to coma and death. On dissection, universal cephalitis was disclosed. The membranes were found intensely inflamed, the substance of the brain softened throughout, particularly around the ventricles, which were amazingly

distended and dilated with serum. The abscess, which was situated immediately under the sensorium, in the substance of the cerebellum, communicated by the meatus internus with the ear, and by numerous carious perforations in the pars petrosa of the temporal bone, with the mastoid cells, which were broken down, and soaked with purulent matter. Dr. Macintyre observed, that diseased pieces of the temporal bone illustrate the devastation frequently committed among the osseous structures by this dangerous but insidious malady, and attest its claim to our attention in its early and remedial stage. It was rather remarkable that, two days before this man's death, when the coma was profound, and the brain probably much disorganized, he all at once recovered his senses, and for some hours conversed coherently and tolerably distinctly about his affairs; then, as suddenly, lapsed into coma, in which he shortly died.

Collapsed Apoplectic Cell in the Centre of the right Hemisphere of the Cerebrum.

The patient died while under treatment for delirium tremens. This singular affection was only one consequence of a long course of habitual indulgence in the use of intoxicating liquors. Gastric, hepatic, cardiac, and pulmonary disease existed to a great extent on a post-mortem examination, and were the determining causes of death. There were no signs of meningeal or cerebral inflammation, but the brain was of remarkable firmness throughout, resembling, indeed, a brain which had been macerated in alcohol. The cell was organized, and was lined by a delicate membrane, fine as the hyaloid or chorion. It presented nothing very unusual, except that the cyst was found fully formed and nearly empty, thirteen days only after the apoplectic seizure. Dr. Macintyre observed that this rapid disintegration and absorption of the red coagulum was of rare occurrence, but not unprecedented, and he thought the case of peculiar interest, as suggesting the grave consideration—how far the special treatment of delirium tremens adopted (that by opium) was concerned in the attack, or may be, perhaps, in other cases, where a predisposition to apoplexy exists. In the instance before us, Dr. Macintyre was inclined to think the seizure was not attributable to the medicine, for it did not take place till forty hours after the administration of one dose of a single grain of acetate of morphia; the patient having slept soundly after it, and awoke tranquil and in his right mind, and continued, till his death, free from drowsiness, contracted pupil, or any other circumstance which could lead us to suppose that the drug acted otherwise than medicinally.

Dr. LLOYD exhibited the heart of a child, thirteen months old, which had been affected with

Endocarditis, complicated with an Original Malformation of the Aortic Valves.

The child had been feeble from birth, and had suffered for some length of time from dyspnoea and cough, which abated after it had been under treatment for eight weeks. This first attack was followed by bronchitis and pneumonia two weeks before it came under the care of Dr. Lloyd, who remarked, pallid countenance, great anxiety, rapid breathing, hurried cough, dulness at the back part of the chest, much tubular breathing, accompanied with crepitation. On listening to the heart, the sounds of which were but slightly audible, from the mucous rale which pervaded the anterior part of the lungs, a distinct, direct, and regurgitant bruit was remarked. The child soon sank; and on inspection after death, two aortic valves only were observed; the one of the ordinary character, and the other equal in size to two, an indistinct ridge intersecting its middle. Both valves were very red, rough, hard, cartilaginous on their surface, and puckered.

Heart affected with Mitral and Tricuspid Disease.

The patient, a woman aged twenty-seven, was affected two years ago with cough, accompanied with purulent and bloody expectoration. The apices of the lungs were dull on percussion, and there were turbulent respiration and bronchophony. A bruit at the first stroke of the heart was heard below the mamma. She was emaciated and hectic. After having been under treatment for a year and a half, she became, to all appearances, perfectly convalescent, and continued so till within four months of her death. The effects of interrupted pneumonia were observed in either lung, and the mitral orifice, from disease of the valve, was so contracted as not to admit of the introduction of the little finger. The tricuspid valve also was fringed with large adventitious deposits.

Mr. EDWIN QUEKETT exhibited a specimen of

Deficiency in the Bones of a Cranium of a Fœtus.

The upper portions of the frontal, parietal, and occipital bones were wanting; the brain, with its investing membranes, protruding loosely from the opening. The fœtus was of the full period, and survived its birth but a few minutes.

MANCHESTER PATHOLOGICAL SOCIETY.

January 7th, 1847.

Cancer of the Penis—Secondary Cancer of the Heart—Use of Matico.

Dr. FRANCIS presented a specimen of cancerous deposit in the left ventricle of the heart. It was taken from the body of a man, æt. 50, who had led a temperate life, never had syphilis, and had been in comfortable circumstances. Eighteen months before death, swelling, pain, and hardness, came on in the glans penis, and, all at once, a fungating growth burst out from beneath the prepuce, and soon attained the size of a large fist. In appearance, subsequently, it closely resembled a cauliflower. The pain, however, had never been excessive, but there were frequent small oozings of blood from the cancerous surface, under the influence of which, and the cachexy into which he had fallen, he sank.

These bleedings, during the last few weeks of life, were found to be fully under the control of the leaf of matico, maintained for a moment by the finger in apposition to the bleeding surface.

After death, a careful search was made, but the only secondary cancer found was in the right inguinal glands, and in the left ventricle of the heart, as displayed in the specimen exhibited. The apex of this cavity was filled up by a tumor as large as a French walnut, but it was not clear whether the endocardium passed upon or beneath it; at any rate, it lay upon, and was closely attached to, the muscular wall of the ventricle, which, without being thinned at that part, was a good deal bulged out by it. The surface of the tumor, where it had been washed by the blood, was covered by little rounded projections, but was smooth, and on section were seen many transparent lines, taking a more or less sinuous course, and dividing it into segments. The substance was yellow, dry, mealy, or granular, and dull, and without crispness on section: it was somewhat like cutting mealy potato, excepting that it was firmer.

There was no other disease in the heart. The lungs were oedematous, and several of their blood-vessels were plugged up with lymph, between the layers of which was, here and there, a little pus.

Dr. Francis adverted to the conclusion that, according to the views of those who believed secondary cancers were propagated by the deposition of germs absorbed from the primary affection, the germs, in this case, must have passed through the lungs without being detained there.

He also spoke of the utility of the leaf of

matico as an application to bleeding surfaces. It soon adhered by inducing coagulation of the blood, and seemed to act mechanically in restraining hæmorrhage. He had used it largely, and had found it much more useful as an external than an internal remedy.

Chronic Hydrocephalus—Tapping—Morbid appearances.

Mr. Fletcher exhibited the brain of a child that had been twice tapped for chronic hydrocephalus.

After death, the head measured 18 inches over the parietal bones from ear to ear, and $27\frac{1}{2}$ inches in circumference. The dura mater and the membranes covering the external surface of the brain were healthy, excepting slight adhesions contracted by the cicatrization of the punctures made by the trocar. The arachnoid cavity contained several ounces of serum. The expanded brain resembled a bag largely filled with fluid. A central longitudinal line marked the division of the hemispheres, and appeared to be the sole remnant of the corpus callosum. The convolution of the cerebrum, with the exception of indistinct traces of a few ridges, were completely effaced, and the hemispheres consisted of one sheet of cerebral matter, varying from one-sixth to a fourth of an inch in thickness, and measuring 20 inches from side to side, of nearly ordinary consistence, perhaps rather softer than in health. The ventricles made but one large cavity, containing 54 ounces of serum, in which floated a large quantity of coagulable lymph; and a thick layer of lymph also covered the bottom of the cavity, where the corpora striata and optic thalami remained distinctly visible, and above them a longitudinal portion of cerebral substance, about as thick as a crow-quill, apparently a remnant of the fornix. The corpora quadrigemina were very distinct, and there were no traces either of third or fourth ventricle. The serous membrane lining the common cavity of the ventricles appeared much thickened, though smooth and polished.

The child had a large head at birth, and some days later it became affected with diarrhoea and strabismus. The derangement of the bowels was soon corrected, but the head continued disproportionately large, so that at 2 months it was equal to the ordinary size of the head at 2 years. After a time, a surgeon punctured it in several places with the lancet, and applied pressure by strapping with adhesive plaster, but without benefit.

When 14 months old, the child was lean, but well grown; all the secretions and excretions were properly performed: the senses were as perfect as usual in children

of the same age; and though it squinted a little, there was neither paralysis nor impairment of sensation in any part. The pupils were rather dilated, but acted correctly. The appetite was good, and the chief symptom of indisposition was crossness and irritability of temper. The head measured 22 inches from the superciliary ridges to the occipital protuberance, and 29 inches in circumference. The sutures were wide apart, and the veins of the scalp were very large.

At this epoch, a trocar introduced through the coronal suture allowed 9 oz. of fluid to escape; and a fortnight later, 10 oz. more of fluid were evacuated in the same way. These fluids were minutely examined by Dr. Francis, who found the first specimen composed as given in the table in the note*, whilst the second specimen contained a larger amount of albumen. No apparent suffering attended immediately on the tapplings, but in the course of a few days after the latter, the child became more cross and irritable, slight convulsion supervened, and about three weeks later it died.

Attention was directed to the difference in character of the fluids removed at the two several tapplings, and after death, as being particularly instructive; the first was little else than a simply saline solution, the second contained much albumen, and the third was highly charged with albumen and flakes and granules of lymph.

Abscess at the Umbilicus—Escape of Gall-Stones.

Dr. Renaud presented several gall-stones, three of them of large size: they had escaped through an opening made spontaneously in an abscess which pointed at the umbilicus.

† The patient, a woman 50 years old, had experienced dyspeptic symptoms some six months ago, and for an entire fortnight had violent spasms in the region of the gall-ducts, recurring daily two hours after the principal meal. The case then indicated the passage of gall-stones, but none were detected in the evacuations. She was relieved, but from time to time had a jaundiced and cachectic appearance.

In September last, a phlegmonous tumor made its appearance about two inches below, and one and a half inch to the left of the umbilicus. Leeching and fomentations

* Water.....	991
Solids	9
Chloride of Sodium	7.5
Extractive.....	1.5
Soda	
Carbonic Acid	
Albumen, a faint trace	
Sulphates0
	1000.0

caused it to retrograde, and ultimately to disappear. Shortly after this, or about two months ago, a similar tumor presented itself immediately above the umbilicus, which went rapidly into suppuration, and, though a natural orifice, discharged a quantity of pus, which was accompanied at intervals, in the course of two days, with the passage of the stones in question. The woman rapidly regained her health and strength, and although there yet remains some slight oozing from the wound, she may be viewed as convalescent.

At no period of the illness were there any appearances, in the dejections, of an impaired flow of bile through the ducts.

Dr. Renaud remarked on the not uncommon circumstance of these phlegmonous tumors following the course above indicated; and he also drew the Society's attention to the rapid convalescence in this case, which he was disposed to attribute in some measure to the somewhat exceptional course pursued; to wit, that the abscess had not undergone any surgical interference, a valvular opening having been produced through gravitation of the fluids, and thus effectually shut off the main sac from any communication with the external air.

Carcinoma of Rectum—Small hard tumors of uterus—Obliterated oviducts.

Mr. Dumville presented the rectum of a woman which was affected with scirrhus stricture; likewise the uterus, in the fundus of which there were two small fibrous tumors: also the oviducts, both of which were dropsical, the fimbriated extremities being occluded and cicatrized.

The carcinomatous disease was exclusively confined to the rectum, the stricture in which was about three inches from the anus, and so perfect, that a common goose-quill could with difficulty be passed through it during life. The carcinomatous growth was infiltrated into the sub-mucous cellular tissue, and at its greatest thickness measured half an inch. The mucous membrane presented no traces of ulceration, nor were there any evidences of former dysenteric disease. Death in this instance was attributed to the mechanical impediment offered to the evacuation of the bowels, which were enormously distended with fecal matters.

The patient was 50 years of age, and had passed some years of her life in the Mediterranean. She began to menstruate when 17 years old, and ceased in her 42d year; was married at 20, but continued childless. Her first serious illness was rheumatic fever four years ago. For the last twelve months of her life she lost flesh, and four months ago began to complain of indigestion and tormina in the colon, accompanied with

irregularity in the evacuations: also occasional pyrosis and vomiting.

One month before death, purging and tenesmus set in, and the evacuations were mixed with blood and mucus.

Mr. Dumville remarked, that, precisely in this case, so likewise in many others, he had known rheumatic fever to have preceded the development of carcinoma; and although it might possibly be found to have some share in generating a bad habit of body, and so predisposing to the development of cachectical diseases, yet he was not prepared to regard it as really, in the strictest sense, a precursor of cancer.

Unusual Hypertrophy of the Heart.

Dr. Charles Bell presented the heart of a man, set. 40, the weight of which, together with its pericardium, was forty-five ounces avoirdupois. The hypertrophy was common to all the cavities. That part of the endocardium which lined the left auricle, and folded over the mitral valves, was slightly thickened and opaque; the other portions were healthy, as was also the pericardium. There were no unusual appearances in the aorta.

The patient sixteen years ago had an attack of rheumatic fever: two years afterwards he was first attacked with palpitations, which gradually grew more severe, when, nine weeks ago, he had an emetic administered to him for eight consecutive days, after which treatment he came under the care of Dr. Bell, but the heart's action was irrecoverably deranged, and, despite all treatment, he died in twelve days time.

The physical signs were, general cardiac dulness: loud murmur a little below and to the right of the left nipple, and across the sternum, which was audible, though to a less extent, all over the cardiac region. A protuberance of the sternum at the point of attachment of the second costal cartilage, which had been gradually increasing in size for the last three years, was also present, and might have given rise to the suspicion of aneurism, seeing it was accompanied with pain and loud murmur, had dulness or unusual pulsation also existed.

Dr. Bell, without staying to reason upon the causes producing the enlargement or murmur, compared the weight of the heart in question with that of the heaviest recorded in Bourguery's great work on Anatomy, which was 30 ounces; and he was of opinion that the fact was worthy of being recorded for the use of those more especially who were devoting themselves to statistical inquiries.

Disease of Larynx—impending suffocation—Tracheotomy.

Dr. Watts introduced a man who, when

suffocating with syphilitic inflammation of the larynx, was saved by tracheotomy.

John Burns, aged 54 years, formerly a soldier, contracted syphilis of the worst description in his eighteenth year, and was confined in hospital upwards of six months with suppurating buboes, which ultimately healed. He regained apparently sound health without suffering from the secondary disease, and afterwards married and had offspring.

In later years, however, he experienced more or less aching in the bones—particularly in the shins, which he ascribed to cold. In September, 1842, he came from Bury to Manchester in an open cart, and slept most of the way: it was a cold night, and on awaking he was quite hoarse, felt soreness in the neck, breathed with difficulty, and was affected with cough. The severer symptoms of this attack were soon overcome, but a short cough with slight expectoration remained in the sequel. In the months of September, 1843-4, and 5, he had relapse of the acute laryngeal disease; but in 1845 it presented itself in a severer form than ever, after having been preceded for some weeks by pain in the neck and deglutition, and perseveringly grew worse. Towards the middle of the month the difficulty of breathing became so great, that he could neither lay down nor sleep. Dr. Watts saw him for the first time, September 29th, after he had been given up for death by three medical gentlemen; the patient was then so breathless as to be scarce able to make the effort to whisper single words at intervals; his voice was nearly extinct, and the inspirations were accompanied with a loud hissing noise in the larynx. The friends stated he had not slept for twelve days, owing to the intensity of the orthopnoea. After a careful examination of the chest and air passages, and having obtained a perfect history of the circumstances, syphilitic laryngitis was diagnosed; the iodides of mercury and of potassium with other appropriate treatment were prescribed, and the case was viewed as being favourable for the performance of tracheotomy. In consultation with Mr. Dumville the plan of operation was agreed upon; but it was determined to wait until the last extremity before having recourse to it, and in the meantime the patient was carefully watched. In the evening of October 1st, the powers of life seemed fast failing, and it appearing impossible for him to continue the struggle for breath longer with safety, the operation was undertaken at his own instance, and most happily performed by Mr. Dumville.* The fit of spasmodic coughing

* Mr. Dumville made the incision very low in the neck, with the view of keeping the wound and the tube as far removed from the site of the

usually attendant on the introduction of the tube having subsided, the man fell into a sound sleep even before the dressings were completed; so signal was the relief from suffering, so completely was he worn out by anxiety and fatigue, and deprivation of rest. The case progressed favourably; the patient continuing to take the medicines was soon under mercurial influence, and gradually improved in health. On the 30th October, precisely thirty days after the operation, the use of the tube was finally dispensed with; the wound closed up within a week, but required other seven days before the skin healed perfectly. The iodide of potassium was administered for a few months longer, to insure the thorough eradication of the lues; but from the period of the removal of the tube he continued steadily improving, until he regained more perfect health than he had enjoyed for many years; and it is remarkable that since then he has never been affected with the cough, which had persisted from 1842 up to the time of the operation, and was threatening to become habitual.

Dr. Watts remarked, that tracheotomy here afforded time and opportunity for the action of the specific remedies under circumstances in which life could not have endured long enough for them to have taken effect had it not been for the suspension of suffering obtained by the surgical operation. The event most completely justified the prognosis; and, notwithstanding the case had been treated by others as asthma, the circumstance of the syphilitic constitution, the chronic cough without pulmonary disease, the apparent origin of the cough in the larynx, the periodical relapses of the laryngeal affection, and the peculiar aching in the bones, appeared to him as sufficiently indicative of syphilitic laryngitis—an opinion which was further strengthened by the radically curative effect of the remedies employed. As promoting the success of the operation, he dwelt on the importance of the patient's room being made very warm before operating, as also on the propriety of maintaining a high temperature afterwards. He had known death follow, as if by shock or spasm, the sudden inhalation of the chilly atmosphere of the operating theatre in winter when this precaution had been neglected; and inclined to attribute the more frequent failure of tracheotomy in hospital practice in part to want of due attention to these points.

laryngeal disease as possible, considering that the process of cure within the larynx would suffer least interruption in this way. The plan, with this advantage, has its inconveniences, namely, the tube rides less securely and is more displaced in the low than in the high incision; so that the patient requires more watching and attention.

Hospital and Infirmary Reports.

UNIVERSITY COLLEGE HOSPITAL.

Case of Pneumonia, following the inhalation of the fumes from melting Sulphur and Phosphorus—Fetid expectoration—Congestion of Abdominal Viscera—Recovery.—[Reported by Mr. J. T. Clover, Physician's-Assistant.]

ADAM AYRES, *et.* 15 years, admitted into University College Hospital under Dr. Williams, Oct. 1st, 1846. Of moderate conformation, sanguine temperament, fair complexion. He has been a servant in a gentleman's family for three years. During the last month he has been employed at a lucifer-match manufactory. His usual occupation was to hand the matches to the person who dipped them in the preparation of phosphorus. He has never suffered from want of food or clothing. His father is healthy. His mother suffers frequently from pain in the chest and cough. Brother and sisters healthy. Habitual state of health good; he is a stout and strong boy. When an infant, his mother says, he had "inflammation of the chest," and that for some time afterwards he did not breathe easily.

Present attack.—On the 25th of Sept. (six days ago), he was engaged four times in dipping matches into the preparation of phosphorus, and for half an hour each time; he was also similarly employed three times the same day over melting sulphur. The fumes from this and phosphorus were thus inhaled several times, exciting at the time violent coughing and an unpleasant sensation in the chest. In the evening the cough continued, and was accompanied by difficulty of breathing and pain in the chest. He had also headache, loss of appetite, and other febrile symptoms on the following day. He has been treated by purgatives and salines, and four days since he took an emetic with temporary relief. Yesterday the expectoration became increased in quantity.

Present state.—Expression of countenance anxious; face flushed. He complains of weakness; skin hot and dry, except over the feet, which are cool; he has headache; respirations laboured, 40 in a minute. He has a sharp pain to the right of the lower part of the sternum, increased by deep inspiration; cough frequent, and accompanied by muco-purulent expectoration.

Physical signs.—Anteriorly: Breath sound obscure on the right side, with muco-crepitation at the lower part. Posteriorly: Dulness to a moderate extent, and tubular voice and breath sound in the right scapular and interscapular regions; muco-

crepitation at the lower part of the right lung; defective vesicular breath sound on both sides; heart's sounds healthy; pulse 120, regular, rather hard; tongue red and moist; loss of appetite; thirst; bowels opened; urine scanty and high coloured.—Fiat V. S. ad 3x. R. Hydrarg. Chlor. gr. iv.; Opii, gr. ʒ. i.; Cons. Rosæ, q. s. ft. Pil. bis die. sum. R. Antim. Pot.-tart. gr. ʒ. i.; Acid. Hydrocyan. Dil. ℥iv. Sodæ Tartratis, gr. xv.; Aquæ, ʒiiss. M. ft. Haustus ter die sum.

Oct. 2d.—He feels less oppression; the cough is troublesome; expectoration copious, viscid, and frothy; breathing short and wheezing; pulse quick; great pain in the liver, increased by pressure; dulness of liver extends lower than usual; fine crepitation and friction sound heard in the right lateral region. Posteriorly: Dulness on the right side less marked than yesterday; breath sound less tubular; vocal resonance remains over the right scapular region; muco-crepitation at the base of right lung.—Emp. Canthar. hypochondrio dextro applic.

Oct. 3d.—Respiration less frequent; pulse 120, soft. The cough comes on in paroxysms; breath foetid; expectoration consists of opaque yellowish clots, floating in a more liquid, semitransparent matter; skin covered with abundant perspiration.—Sumatur Pil. Cal. et Opii, hōra somni tantum. Adde Haustui Træ Opii, ℥iij.

5th.—No pain over the liver except on coughing; much less pain in the chest; tongue furred, red at the edges; pulse rather fuller; bowels confined; urine scanty, sp. gr. 1030, reaction strongly acid, contains a copious pink sediment, dissolved by the application of heat; more vesicular breath sound is heard; tubular respiration still heard over the root of the right lung, extending outwards over the scapula.—Ordered a dose of castor oil.

8th.—Sleeps better; breathes easier; cough has become more violent and convulsive; the urine, which since last report has been clear, again deposits a considerable quantity of pink lithates; the sputa is streaked with blood; coarse crepitation mixed with vesicular breath sound heard over the right scapula.—Omitt. Tr. Opii ex haustu, et adde Extract. Stramonii, gr. ʒ. i.

Oct. 10th.—Cough still troublesome; expectoration contains large streaks of dark green matter, and has a remarkably foetid odour; breath likewise foetid; gums sore.—Omitt. Pil. Cal. et Opii. R. Liq. Soda Chlorinatæ, ʒij.; Aquæ, ʒviij. ft. Lotio pro ore.

13th.—Expectoration diminished, more frothy, still foetid when first expelled, but the expectoration of yesterday having been exposed to the air now gives out an odour

by no means foetid, and something like that of violets. Tubular sound at the right back more whiffing, mixed with coarse vesicular breath sound; urine clear, of usual quantity, sp. gr. 1015; has a white flocculent deposit, rendered turbid by heat, cleared again by nitric acid, phosphates.—Omitt. Medicamenta. Middle diet.

17th.—Feels better; tongue moist and clean; pulse slower and soft; cough relieved; vesicular breath sound heard extensively; slight muco-crepitation remains posteriorly; expectoration much decreased and not foetid.—A chop daily.

20th.—Convalescent. Only complains of cough in the morning.

27th.—He has pain in the abdomen, which is full and tense; tympanitic at the lower part; below and in front of the left false rib is a soft compressible mass, giving a doughy feel. The liver dulness extends two inches below the margin of the thorax; pulse quiet, skin rather hot.—*R. Hydrarg. Chlor. gr. iij.; Ext. Conii, gr. iv. M. ft. Pil. h. s. s. Cras mane Habeat OL Ricini, ʒss.*

Oct. 29th.—The purgative acted well; pain and tension of abdomen relieved; tenderness on firm pressure over the liver, the edge of which can now be grasped, and reaches to within two inches from the umbilicus; tenderness on pressure, from before, of the right kidney; the spleen is felt enlarged, and somewhat reniform, it extends from the eighth rib to two inches below the last ribs, reaching forwards towards the navel; urine contains no albumen.—*Applicetur Emp. Canth. Hypochondrio dextro. R. Potassii Iodidi, gr. ij.; Potassæ Bicarb. gr. x.; Inf. Calumbæ, ʒj. ft. haustus ter die sumend. Om. nocte sumat. Pil. Col. c. Hydrarg.*

31st.—Feels much better; has a little expectoration and cough remaining; liver still large, but less tender; anterior edge of spleen comes within an inch of the umbilicus; it is not tender.

Nov. 3d.—Abdomen is softer, but still more bulky than natural; the anterior margin of the liver is felt thicker than is healthy.

16th.—Since last report he has been progressing favourably with the exception of a return of pain in the right hypochondrium, which was quickly relieved by a blister. The enlarged liver and spleen are much decreased, and the abdomen nearly of its usual size. He has regained much strength. Discharged.

REMARKS.—At a clinical lecture, Dr. Williams remarked, that the exciting cause in this case appeared to be the inhalation of the irritating fumes of phosphorus and sulphur, given off during low combustion. On the day of the attack he had been more

than usually exposed to this cause, and whilst at work he had severe fits of coughing. The muco-crepitation and deficient breath sound indicated bronchitis, but there was also some consolidation made evident by the dulness on percussion, tubular breath sound, and vocal resonance. Slight pleurisy complicated the disease, a friction sound being heard on the seventh day, but this soon disappeared. A week after he was admitted the expectoration was observed to have a peculiarly foetid odour, and the cough at the same time was extremely violent and harassing. It would seem that this kind of cough has some relation to the kind of sputa; its extremely noxious character exciting the strongest efforts for its removal. The sputa was indicative of gangrene of some portion of the lung, probably a very inconsiderable portion, or merely a portion of the bronchial membrane might have been thus affected, as there were no signs of breaking up of the texture of the lung, and as the characteristic sputa did not long continue to be expectorated.

After the chest was relieved, and he had returned to meat diet, symptoms of abdominal disorder came on. A brisk purgative was given, and then the liver could be distinctly felt, and the soft swelling in the left side had given place to one more firm, and which from its situation and shape was evidently the spleen. At this examination, on pressing the right kidney from before, more pain was produced than by similar pressure in other parts of the belly. Here was, therefore, general congestion of the abdominal viscera: from its coming on at the close of an inflammation, and being unaccompanied by febrile symptoms, it probably depended on a weak state of the circulating system. Bicarbonate of potash was combined with the iodide of potassium, as the latter is more apt to disturb the digestive organs when given alone. Aperients were also used, and the secretions generally being thus attended to, a decided improvement followed, so that the patient left the hospital in less than three weeks.

ST. BARTHOLOMEW'S HOSPITAL.

Cæsarean Operation, performed by Mr. Skey, at St. Bartholomew's Hospital.

THE subject of this case, a dress-maker, æt. 27, of a mild disposition, is only four feet one inch in height on account of great distortion of the pelvis and lower limbs from rickets during childhood. Her general health is good.

On the evening of the 7th of April, 1846, while under temporary excitement, she had connexion once with a young man lodging in the same house. She was not aware of

being pregnant until the seventh month, when she consulted a surgeon, who, conscious of her dangerous position, sent her to Mr. Skey, under whose care she was admitted into St. Bartholomew's Hospital.

An accurate examination was then made by several distinguished accoucheurs, who were unanimous in their opinion that embryotomy would be impracticable on account of the extreme narrowness of the antero-posterior diameter of the pelvis. It was, therefore, recommended that no operative proceeding should be adopted until the full period of utero-gestation; and that the Cæsaean section would then be the most proper measure.

The nature of the case being fairly and fully explained to the patient, she readily consented to undergo any operation which offered the best chance of relief.

At 2 in the morning of the 25th of January she was awakened from sleep by the commencement of labour.* The membranes gave way soon afterwards, and the pains increased. Mr. Skey, with several accoucheurs, made an examination *per vaginam* at half-past 4 A.M. The os uteri was at that time very little dilated.

A second examination was made at half-past-seven. The os uteri was still in the same condition, but the labour pains were rapidly increasing. The operation was therefore no longer delayed.

The vapour of ether was inhaled by the patient for six minutes before its effects were manifest: an incision eight inches in length was made down to the linea alba, commencing two inches above the umbilicus, and terminating two inches and a half above the pubes. The linea alba was then divided to the same extent on a broad director. The uterus was fairly exposed, inclining to the left. Adequate pressure over the front and sides of the abdomen was necessary to prevent protrusion of the intestines. An incision from five to six inches in length was then made into the long axis of the uterus, from which a well formed, healthy looking female child was easily removed. The placenta was extracted shortly afterwards. Thus far, the operation occupied six minutes.

Immediate contraction of the uterus to one half its previous size followed the removal of the child. The free venous hæmorrhage which took place from its cut surface was arrested by cold water and pressure between the hands. In half an hour the uterus had contracted to such a size as to render its replacement within the abdomen safe. Accordingly, with the sanction of Drs. Rigby, Fergusson, Moore, P. Smith, and others, the incision in the abdomen was brought together by eleven sutures.

* It is worthy of remark, that the full period from intercourse was here 296 days.

Broad strips of plaster were applied to support the muscles, and cotton wool placed on the abdomen with a flannel roller over the whole.

It may be as well to observe that the inhalation of the ether produced insensibility to the pain of the first incision. Its prolonged exhibition was not allowed lest it might possibly interfere with the contraction of the uterus.

Correspondence.

ON THE ETHER VAPOUR PATENT.

SIR,—Permit me, through the columns of your valuable journal, to call the attention of the profession to the subject of a patent being granted to protect the discoverers of the administration of ether vapour prior to the performance of surgical operations. Your remarks in the last number of the *Gazette* are quite in accordance with my own views, and I doubt not of many of our profession. Assuredly the discoverers of anything calculated to diminish the sum of human misery ought to be regarded as benefactors of mankind, and as such rewarded by the government of their country; but that such discovery should be made the subject of a patent is, to say the least of it, unprofessional. The experiments performed by the discoverers, Drs. Jackson and Morton, in America, and those in London, Bristol, and in the Richmond Hospital, Dublin, by Dr. Macdonnell, although, perhaps, not yet sufficiently numerous, have been highly satisfactory, and would warrant us in anticipating immense advantage from the employment of an agent so simple and manageable. Is it to be supposed that the poor, who (owing to their mode of life exposing them to so many accidents) are the most frequent subjects of painful operations, could derive any benefit from a discovery while under the protection of a patent, or could it be expected that subscribers to medical charities, and guardians of the poor would add an additional tax on the people to prevent the suffering of those patients who might be the subjects of operation? The immortal Jenner, whose discovery of vaccination has, perhaps, been unequalled in any branch of science, having prevented great deformity, and saved from actual destruction millions of human beings, sought no patent, no government protection; but, working for the benefit of his fellow-beings, could afford to await the hour when his labours, notwithstanding much opposition and difficulties, would meet with their reward. His country, justly proud of such a discovery, and the most eminent of his profession having testified to its importance, a committee of parliament, four years after the promulgation of

his discovery, voted him £10,000, as a reward, and three years afterwards an additional sum of £20,000; after all, trifling when compared with the large sums granted to those who have benefited the country by arms. No discovery could exceed in importance that which would effect the diminution of human suffering, and all persons are aware of the severe pain attending the performance of surgical operations, the dread of which has often prevented operations that would have saved lives. The medical profession should then at once make a united effort to induce Parliament to grant to Dr. Jackson a sum of money as a reward for so valuable a discovery, and prevent him obtaining a patent; this would most injuriously restrict the employment of a most useful agent to those in comfortable circumstances, and leave the poor to suffer more keenly than before, by knowing that their suffering was in consequence of that poverty which in too many instances it is not in their power to remove.—I am, sir,

CHIRURGUS.

Leaburn, Jan. 15th, 1847.

* * We do not believe that the patent could be sustained. The English agent for the patentees appears to be of the same opinion, as the ether vapour is now almost universally employed, and no notice is taken of the alleged infringement.

ACTION OF CAMPHOR ON THE TEETH.

SIR,—It is not imperative to trouble you with any reply to Dr. Bradshaw's letter in your last journal, as you have already answered many portions of it that appeared important, but there are some points I will offer a few remarks upon with your permission, as my own desire is to obtain accurate knowledge, and to offer my best thanks to him who will disabuse my mind of error. If I know the spirit of my last communication, it was not dogmatizing; it was intended to convey my own experience, based on observation, but not on any systematic experiments, on the supposed effects of camphor on the teeth—that the latter appeared to be injured—that this did not result from immediate or direct chemical action on the dentine or enamel, but by contracting the gums, &c. Dr. Bradshaw says: "If camphor be used in the form of Sp. Camphoræ, it is to the stigmulant effect of camphor upon the tender gums, that the injurious effects quoted are to be assigned; " whilst" (he adds) "with camphor without alcohol there are not any unpleasant effects." In reply to these statements, I will not oppose mere assertion, but will mention that for some time I have been trying some experiments with the intention, if possible, to obtain the truth. I used for the purpose a

strong saturated solution of camphor in rectified spirit, thinking that this powerful and concentrated form would be likely to furnish data respecting the supposed injurious agency of the milder forms in which camphor is used. In my experiments the action appeared to be directly on the periosteum of the fang or fangs, which in some measure would seem to account for all the subsequent phenomena, as being induced from this one circumstance, viz. the altered appearance of the bone, its brittleness, its tendency to become carious, &c.

My experiments would also seem to confirm the opinions of other observers and myself, that the injury of the Sp. Camphoræ is not *per se* on the bone or enamel, but on the investing membrane of the fang. Dr. Bradshaw thinks that camphor exerts a chemical action on teeth that are even deprived of their natural investiture (the enamel), and that therefore the injury observed must result from the effects of the alcohol.

[I have thought that there is a misprint in Dr. Bradshaw's letter, thinking it probable he attributed a *conservative*, rather than a chemical action, in case of exposed dentine.]

But, with all deference to Dr. Bradshaw, I cannot think that all the effects on the teeth are attributable to the action of the "spirit," because tissues, similar in structure to the periosteum, when placed in alcohol, are more or less corrugated and hardened; yet, in my experiments, the reverse seemed to be the case: the periosteum is softened, and hence it appears *a priori* fair to infer that this difference is owing to the presence of camphor. It may be difficult to explain the *modus operandi*. It is also worthy of remark, that the saliva contains free oxygen, which may combine with the camphor to form camphoric acid, and in this combination it may affect the bone of the teeth.*

There is an incidental remark in Dr. Bradshaw's letter which interested me, when he says, he had observed all the symptoms

* The production of camphoric acid from camphor is by no means so simple an operation as this hypothesis would suggest. We are not acquainted with any proof that camphor will combine with free oxygen to form it. We have since received a note from our correspondent on this subject, in which he states, that he found camphor mixed with saliva to turn litmus paper red; and he is disposed to draw the inference, that the camphor had become partially converted to camphoric acid by combination with oxygen. Before such an inference can be drawn, it must be clearly proved that there was no acidity in the saliva itself, and that this complex product, *camphoric acid*, has really been produced. Most chemical works contain a description of the differences between camphor and camphoric acid. If the hypothesis were true, there is no reason why Aqua Camphoræ long kept, should not be invariably acid.—ED. GAZ.

patient was seated on a table, and the inhalation was applied by means of a very beautiful yet simple apparatus, made by Squire of London, and which, we understand, had been sent to Professor Miller by Mr. Liston—a very suitable gift, under present circumstances, from that eminent surgeon to his old pupil. At first little effect was produced; but after some minutes the patient fell backward, as if in a swoon. The operator was then about to proceed, but the man immediately objected—saying, “that he was not asleep, and that he trusted that nothing would be done till he was asleep.” For full twenty minutes more, the inhalation went on; the man confused and talkative, but wide awake, and occasionally expressing, very emphatically, his conviction “it would not do.” At length, however, while in this wakeful state, the operation was begun. Incisions were made on the shin; and flaps were dissected off, so as to expose the bone beneath. A portion of this was sawn and clipped through, and then the dead bone was removed. Only during the clipping of the bone with strong straining pliers did any sign of feeling escape from the patient, who was busy inhaling all the while, and now and then protesting that “it would not do.” The operation occupied about ten minutes, and from the highly sensitive nature of the parts implicated, must have been attended with excruciating suffering in ordinary circumstances. After it was over, the professor said to the patient, “I suppose you won’t let me operate to-day?” “Certainly not,” said the patient; “it won’t do, I must be asleep. The thing hasn’t succeeded with me, and I am sure it can’t succeed with any one else, for I did everything I could to get asleep for my own sake, and I’d do anything to please you.” “You won’t even let me make a cut in the leg?” “No; I must be asleep; we can try it another time.” This plain proof of his utter unconsciousness of the operation having been performed was acknowledged by the spectators in a hearty round of applause. The patient then sat up, and seeing the wound, burst into an immoderate fit of laughter, saying “No doubt there’s blood, or something very like it; but I haven’t felt a single thing done to my leg. That *bates* the globe;” and on being asked decidedly as to his having “felt anything,” he repeatedly answered, “Not a haporth.” He got into amazing spirits, and refused to leave the table until he had told “all about the toldrums of the business.” And then, with the manner of a tipsy man, and very happy, he kept surgeons and students in a roar of laughter for some minutes with a narrative of his condition during the inhalation, which, Irish like, seemed to have been a strange medley of imaginary fights and “killings” going on around him, but wholly

irrespective of his own leg and the operation. On being carried out, he declared triumphantly, “this is the very best thing that has ever happened in the three kingdoms.” The Professor stated that he considered this case quite conclusive as to the powers of the ether, because there was no more painful operation in all surgery, and because the patient having being avowedly a hard and habitual drinker of spirits, was one of those persons who are least susceptible of the ether’s influence. The whole proceedings seemed to give the greatest satisfaction to the medical and surgical officers of the institution, and to a large assemblage of interested spectators. Perhaps the most remarkable thing in such a strange tale is, the circumstance of the man being so wide awake and talkative, while all the while quite insensible to the cruel cutting of his limb. On the following day he was doing well, having experienced very little pain after the effect of the ether had ceased.

On Wednesday, Professor Miller again operated after administering ether, and with equal success. The patient, who was a young man, had an extensive incision made on the thigh on account of *sisas*, the wound being afterwards searched with the finger. After the operation had taken place, he was asked, “Shall we make the cut now?” He answered, “Oh yes, I dare say you may.” “Did you feel anything done to the leg a little ago?” He answered, “Nothing.” On being then shown the wound, he was surprised, and said, “Well, I had a kind of a dream as if something was done to my leg—just a dream like.” He was then asked as to the present sensation. “Just about half drunk.” “You have then been tipsy before?” “Yes, twice. But never so comfortably drunk as now?” “Never so lightsome.”—*Edinburgh aper.*

THE MISTAKES OF CORONERS CORRECTED BY MAGISTRATES.—ENCOURAGEMENT OF SECRET POISONING.

THE examination of Susannah Johnson, charged with poisoning her husband, took place on the 20th inst., at Salford, the bench fully committing her for trial at the next assizes. The inquiry has occupied several days during the last three weeks. It appears that the deceased was a carter, and lived at a neighbouring parish. About the latter end of last November, he was taken seriously ill whilst eating some beefsteak and potatoes, which had been prepared by his wife for his supper. His symptoms became more alarming; a medical man was called in to see him, and on the third or fourth day he expired. A coroner’s inquest was held on the body, and the jury returned a verdict, that the deceased died from ta-

Inflammation of the bowels, but how, &c. caused, there was no evidence to show. The body was interred, and the subject had almost been forgotten, when the police of the district were made acquainted with such facts as to warrant the apprehension of the prisoner and the disinterment of the body. At her examination, a woman, named Hardman, who kept a general dealer's shop near where the prisoner resided, deposed that she purchased three pennyworth of arsenic at her shop on the 27th of November, a day or two before the death of the deceased. She said she wanted it to kill rats. By a constable's statement it appeared that on the prisoner being confronted with Hardman before she was taken into custody, she denied all knowledge of buying such poison at the shop. Mr. J. Leigh, surgeon, and lecturer at Pine-street Medical School, Manchester, described very minutely and at great length the result of the *post-mortem* examination of the body. On subjecting a portion of the contents of the stomach and bowels to analysis, he obtained a metallic deposit. It might have been arsenic or antimony. He believed it to have been arsenic. Death was caused by excessive irritation existing in the alimentary canal. Mr. J. Hepworth, surgeon, of Eccles, deposed to the same facts. Mr. Trafford, the magistrate, addressing the prisoner, told her that it was his duty to commit her for trial on a charge of having administered poison to her husband, and causing his death. She replied that she did not do it. In the course of the afternoon she was removed to Kirkdale gaol, to await trial at the ensuing assizes.—*Times*.

This case will serve as an additional illustration of the very imperfect manner in which coroners' inquests are conducted; and it will also show the amount of mischief inflicted on society by allowing persons, who are, medically speaking, unqualified and incompetent, to perform the duties of this office. What benefit is derived from an inquiry, the result of which is to inform us that "the deceased died from inflammation of the bowels, but *how* caused there was no evidence to show?" It was the duty of the coroner to have such cause (almost always suspicious) satisfactorily explained: but, probably, that the county might not be put to the expense attending a proper analysis and investigation, an unmeaning verdict was returned. This is a direct encouragement of secret poisoning, and it would only be a proper punishment if, on the discovery of such a serious mistake, the coroner were summarily dismissed.

APPLICATION OF ETHER VAPOUR TO THE PRACTICE OF MIDWIFERY.

We believe that Professor Simpson has the

credit of having first employed ether vapour in the practice of midwifery in this country. The case was perfectly successful, as the following extract will shew:—

"A few days ago, Professor Simpson stated to his class that he had practised with entire success the inhalation of sulphuric ether in a case of the most difficult form of labour, and where otherwise the sufferings of the patient would undoubtedly have been extreme. The mother was lame and deformed. At a former accouchement, the labour lasted three or four days, and, from the necessarily protracted use of instruments, the patient's agonies were very great. On the present occasion, Dr. Simpson had previously determined to avoid, if possible, the use of all instruments, and to attempt to extract the infant by the feet. He expected to be aided in this by the use of the ether inhalation. Accordingly, when labour had set in for a few hours, the patient was put under the influence of ether, and in a few minutes the child was turned and extracted, while the mother was altogether unconscious of the operation, and that, too, although the delivery was rendered excessively difficult, by the degree of compression to which the child's head required to be subjected. On afterwards awakening, or passing from her 'etherialised' condition to the state of common consciousness, one of the first circumstances of which the patient became aware, was the noise attendant on preparing a bath to resuscitate the infant. A remarkable circumstance pointed out in the case by Dr. Simpson was, that, whilst breathing the ether, the labour pains or throes continued, and yet the mother (to speak paradoxically) *felt* no pains. We hear she is rapidly recovering. This is, we believe, the first instance in which this new and extraordinary agent has been employed in the practice of midwifery.

PAINLESS OPERATIONS WITH ETHER VAPOUR AT THE MIDDLESEX HOSPITAL.

ON Monday last, at the Middlesex Hospital, the efficacy of the ether was put to as severe a test as it has yet been subjected. A man of 68 had been admitted with symptoms of stone and diseased bladder; so much pain, straining, and struggling attended the attempts at sounding, that it was with difficulty satisfactorily accomplished. The vesical tenesmus was incessant, amounting to total incontinence of urine. Endeavours were made for several weeks to allay this extreme irritability, so that some urine might be retained or some water received as an injection, but in vain; neither could be endured; lithotomy was consequently out of the question; and Mr. Arnott determined to perform the operation of lithotomy, unpromising as the case was, but if possible,

whilst the patient was under the influence of the ether.

In seven minutes from the commencement, but in reality only two from the effectual inhalation, the influence of the ether was obtained. The catheter was then introduced and some water attempted to be injected, but not above two or three ounces could be borne, and this, retained by pressure, was ejected immediately on the introduction of the staff, which, owing to the state of the parts, was effected with some difficulty and consequent delay; the bladder was cut into; the stone was grasped at once but crumbled under the forceps, requiring their reintroduction several times; the scoop was employed to remove calculous matter like mortar; and, lastly, the bladder was injected four or five times so as to wash it out. During the whole time, from first to last, the patient gave not the slightest indication of suffering, indeed it was not until he was removed to bed and had been some time in it, and taken some brandy and ammonia, that he did so, and then of soreness merely. Nor was the influence of the ether limited to this; its anodyne effect was maintained during the evening, the man remaining in a dreamy and "very comfortable state," as he termed it. He declares he suffered no pain; he knew that something was being done, but he recollects nothing distinctly "after blowing the horn." Up to this time, Wednesday evening, he is going on very favourably. Without ether the pain in this case would have been most severe, and, from the circumstance mentioned, of more than ordinary duration, but happily the patient was spared it all. The apparatus employed was one invented by Mr. Bell, the Chemist of Oxford Street, who was present, and assisted Mr. Tomes in its application.

CAUTION RESPECTING THE RESPIRATION OF ETHER VAPOUR.

THE editor of a French journal has called attention to the fact that the vapour of ether, as it is respired for the purpose of rendering operations painless, is not merely inflammable, but explosive. Ether, in the state of vapour, must be regarded as a bicarbonated hydrogen gas mixed with the elements of water. With a sufficiency of oxygen, of which it would require 12 equivalents or 96 grains to consume one equivalent or 37 grains of ether, and convert them entirely to carbonic acid and water, there would be a violent explosion; but the small quantity of oxygen contained in air, and the large proportion which the ether vapour must bear to that of air, in order to ensure the narcotic effects, will prevent the occurrence of such an alarming accident as that contemplated by the French editor: *i. e.* the entire blowing up of the lungs and chest

of a patient by the careless approach of a candle during an operation performed at night. Nevertheless, we need hardly observe that it would be hazardous to bring a lighted candle near the respiring tube, if left open, since the vapour, when mixed with a certain proportion of air, would burn not merely at the surface, but throughout the mass, and might cause an accident. Ether, when once kindled, is not readily extinguished by water, as it may rise and burn on the surface. Loose porous incombustible substances, such as charcoal or mould, are best adapted for its extinction.

Operators should bear in mind that ether vapour is very heavy, having a specific gravity at a temperature of 60°, and a pressure of 30 inches of 2.58 to 1, compared with air. Owing to this, it falls to the bottom of vessels, and may be poured from one vessel to another much more readily than carbonic acid. Hence it follows, that, when the apparatus is above the level of the patient's mouth, the respiration of the vapour is much facilitated by its density and its tendency to flow at once into the lungs. The reverse happens when the source of the ether vapour is below the level of the patient's mouth.

TABLE FOR CALCULATING THE STRENGTH OF ETHER VAPOUR. BY JOHN SNOW, M.D.

TABLE of the quantity of vapour of ether in 100 cubic inches of air, saturated with it at various temperatures:—

Temp. Fahr.	CUBIC INCHES.		WEIGHT IN GRS.	
	Æther.	Air.	Æther.	Air.
40°	24.3	75.7	19.1	23.1
42	25.6	74.4	20.1	22.7
44	27.0	73.0	21.2	22.2
46	28.3	71.7	22.3	21.8
48	29.7	70.3	23.4	21.4
50	31.2	68.8	24.6	20.9
52	32.7	67.3	25.8	20.5
54	34.3	65.7	27.0	20.0
56	36.0	64.0	28.3	19.5
58	37.7	62.3	29.7	19.0
60	39.5	60.5	31.1	18.4
62	41.4	58.6	32.6	17.8
64	43.3	56.7	34.1	17.3
66	45.3	54.7	35.7	16.6
68	47.4	52.6	37.3	16.0
70	49.4	50.6	38.9	15.4
72	51.5	48.5	40.6	14.7
74	53.6	46.4	42.2	14.1
76	56.0	44.0	44.1	13.4
78	58.4	41.6	46.0	12.6
80	61.0	39.0	48.1	12.0
82	63.7	36.3	50.2	11.0
84	66.6	33.4	52.5	10.1
86	69.5	30.5	54.8	9.3
88	72.5	27.5	57.1	8.3
90	75.6	24.4	59.6	7.4

At about 45° the weights of vapour of ether and of air are equal, and at a little above 70° the volumes are equal. The weights are calculated with the barometer at 30.

From this it will be seen that the quantity of ether administered with air varies materially with the temperature.

THE ROYAL COLLEGE OF SURGEONS.
GENTLEMEN admitted Members on Friday, January 22, 1847.—S. M. C. A. A. Smith—J. Goodlad—J. L. Johnston—E. D. Allinson—T. Bridgwater—A. G. Willington—H. G. Grayling—G. R. Skinner—C. H. Dunhill—J. Hyalop—W. E. Hughes—J. Beecroft—C. W. Wray—W. A. Salmon—W. Weston—W. F. Tomkins—T. H. Tanner.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination and received certificates to practise on the 21st inst.:—George Wilmshurst, Warwick—William Sutherland Meek, Nantwich, Cheshire.

OBITUARY.

On the 25th inst., at Denmark-hill, John Buxton, Esq., M.D., of Brownlow-street, Bedford-row, in the 28th year of his age.

On the 22d inst., at Burton-upon-Trent, John Spender, Esq. M.D. in his 77th year.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer 29.92
" " Thermometer 33.2
Self-registering do. max. 0° min. 13°
" in the Thames water — 36.5 — 34°

a From 12 observations daily. b Sun.

RAIN, in inches, 0.0: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 3.9° below the mean of the month (36.1°).

BIRTHS & DEATHS IN THE METROPOLIS During the week ending Saturday, Jan. 16.

BIRTHS.	DEATHS.	Av. of 5 Wint.
Males.... 743	Males.... 631	Males.... 542
Females.. 714	Females.. 660	Females.. 526
1457	1291	1068

DEATHS IN DIFFERENT DISTRICTS.

(34 in number;—Registrars' Districts, 129. Population, in 1841, 1,915,104.)

WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326)	175
NORTH—St. Marylebone; St. Pancras; Islington; Hackney .. (Pop. 366,303)	233
CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London .. (Pop. 374,759)	233
EAST—Shore ditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar .. (Pop. 393,247)	297
SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich .. (Pop. 479,460)	353
Total	1291

CAUSES OF DEATH.

ALL CAUSES	1291	Winter av. 1068
SPECIFIED CAUSES	1291	
1. Zymotic (or Epidemic, Endemic, Contagious) Diseases ..	169	183
<i>Sporadic Diseases, viz.—</i>		
2. Dropsy, Cancer, &c. of uncertain seat	114	112
3. Brain, Spinal Marrow, Nerves, and Senses	170	170
4. Lungs and other Organs of Respiration	533	354
5. Heart and Bloodvessels	45	32
6. Stomach, Liver, and other Organs of Digestion	85	70
7. Diseases of the Kidneys, &c. ..	13	8
8. Childbirth, Diseases of the Uterus, &c.	15	12
9. Rheumatism, Diseases of the Bones, Joints, &c.	7	7
10. Skin, Cellular Tissue, &c.	8	2
11. Old Age	98	61
12. Violence, Privation, Cold, and Intemperance	34	30

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	4	Convulsion	49
Measles	9	Bronchitis	152
Scarlatina	13	Pneumonia	128
Whooping-cough ..	44	Phthisis	153
Typhus	40	Dis. of Lungs, &c. ..	16
Dropsy	31	Teething	16
Sudden deaths ..	11	Dis. Stomach, &c. ..	2
		Dis. of Liver, &c. ..	11
Hydrocephalus ..	27	Childbirth	9
Apoplexy	33	Dis. of Uterus, &c. ..	4
Paralysis	24		

REMARKS.—The total number of deaths was 223 above the winter average. Bronchitis and pneumonia are still the most prevalent causes of death. In all the districts, the mortality was above the winter average.

NOTICES TO CORRESPONDENTS.

We beg to acknowledge the receipt of a pamphlet, entitled, "A Word to the Public." By the author of "Lucretia," "Rienzi," &c.

The communications of Dr. Hughes and Dr. Waller will be inserted in the following number. The Report of the South London Medical Society, and the Report on Mesmerism in India, are unavoidably postponed until next week.

The letter, addressed by Mr. R. R. Pennington to the General Practitioners of Medicine, &c. has been received.—The Memorial in our next.

Mr. H. Smith's paper has come to hand.

Mr. J. C. Clendon.—We have made inquiry and find that the report given, at p. 157 of our last number, of Mr. Hale Thomson's speech at the Westminster Medical Society is substantially correct. We know nothing of the matter in dispute, and therefore cannot open our pages to any controversy on the subject. Our correspondent should address his complaint to Mr. Hale Thomson, or have the matter explained at the next meeting of the Society.

We regret that want of space has compelled us to postpone Dr. Wake's letter until next week.

RECEIVED.—The Scotch Reformer's Gazette.—The Edinburgh Weekly Chronicle.—Dr. Quain.—A brief Statement of the Grievances of the Indian Medical Service.—Dr. Brookes, Cheltenham.

ERRATUM.—At p. 163, col. 1, of our last number, in the foot-note, for "regulation bill," read "registration bill."

Original Communications.

A COLLECTION OF FACTS ILLUSTRATIVE OF
THE

MORBID CONDITIONS OF THE
PULMONARY ARTERY,

AS BEARING UPON THE TREATMENT OF
CARDIAC AND PULMONARY DISEASES.

By NORMAN CHEVERS, M.D.

[Continued from page 97.]

MALPOSITION OF THE PULMONARY
ARTERY (continued.)

*Transposition of the Aorta and Pulmonary
Artery.*

THIS remarkable and very serious kind of malformation appears to depend upon some error in the process which, at an early stage of intra-uterine life, causes the separation of the arterial bulb into two distinct vessels; the primitive systemic, and pulmonary trunks. That this erroneous division of the vessel occurs previously to the development of the ventricular septum is proved by the details of the following case.*

A child, born on the 21st of November, 1842, was deposited on the same day at the Foundling Hospital in Paris. Those who had the care of it remarked that it was often the subject of great distress of breathing, with a quick and dry cough, and especially that when it drank, a state threatening suffocation ensued. The child was large, and externally well formed; but it died in 11 days, apparently of umbilical phlebitis. The heart was found to be bag-shaped, or rather rounded at the place of the apex, and to consist of only one ventricular cavity. Viewed from the front, the pulmonary artery was quite hidden by the aorta, which originated from the right and anterior portion of the ventricle, and by the auricular appendices, for of those there were two which were well formed, although there was only one auricle. A line directed obliquely backwards, and from right to left along the base of the ventricle, would have crossed, first, the opening of the aorta; next, that of the pulmonary artery; and, lastly, the auriculo-ventricular opening. The spleen was large, but no other viscus or portion of the circulatory apparatus presented any anomaly. The most remarkable circumstance of this case was, that no cyanosis had been noticed during life.

* From the Archiv. Gen. de Med. Feb. 1843, as quoted in the Lancet for 1842-3, vol. ii. p. 224. I have already briefly alluded to this case, at p. 278.

A variety of appearances have been found in the several instances of this kind of malformation which have been recorded. In cases of transposition of the great arteries, some of those communications which exist, during foetal life, between the pulmonary and the systemic heart and their vessels always remain permanent;—either the ventricular septum, the foramen of Botal, or the arterial duct, is always pervious in examples of this malformation; indeed, it would, at first sight, appear impossible that, in such cases, the circulation could be in any way maintained, even for a few minutes, unless two of these channels remained open—one to convey a portion of the venous blood to the left, which is here the pulmonary ventricle, the other to return the arterialized fluid to the right ventricle, or to the aorta, which here arises from that cavity. There are, however, cases of this description upon record in which only one abnormal communication, the arterial duct or foramen ovale, was observed to be present, and still the children lived for a considerable period. It is very probable that the histories of these cases are imperfect in some of their details, and that those who have recorded them failed to observe some abnormal communication which existed either between the cavities of the heart or some of the great vessels; as, for example, one or more of the pulmonary veins may have entered the venæ cavae, or the bronchial arteries may have been much enlarged, and have thus produced an unusually free communication between the aorta and the lungs.

In some instances of this malformation the auricular and ventricular septa have been found imperfect; in others, the foramen ovale only is stated to have remained unclosed; in a third set the arterial duct and the auricular septum have continued permanently open; in a fourth, there does not appear to exist any abnormal communication except through the ductus arteriosus; and, lastly, the ventricular and auricular septa, and the arterial duct, may all remain pervious.

These facts will prove that, although transposition of the two primitive arteries is very liable to determine the establishment of a permanent communication through the ventricular and auricular septa, and the arterial duct, it does not by any means necessarily prevent the natural closure of either these parts. In the majority of these cases the cavities of the heart occupy very nearly their natural position, while the transposed arteries arch as usual to the left. In one instance (Gomage's), however, although the position of the ventricles was partially reversed, the aorta arose from what is usually the pulmonary ventricle, and arched to the

right, while the pulmonary artery originated from the systemic ventricle. In another case (Walsh's), the ventricles were transposed, but the aorta appears to have arched to the left.

Dr. Walsh has observed that, in several cases of transposition, the large vessels of the arch have been given off in an irregular manner; in other instances, however, these arteries have been distributed in the usual way.

The following are the most remarkable recorded instances of the several varieties of this species of malformation.

(1.) *Transposition of the pulmonary artery and aorta; the septa of the auricles and ventricles imperfect; the ductus arteriosus closed.*

Mr. S. S. Stedman has narrated* the case of a female child which was born at the full period of gestation, but which was observed to be small at birth, although nothing unusual was then remarked in her appearance. She seemed to be in good health, and thrived well for a fortnight, at the expiration of which time, without any apparent cause, she was seized with a violent fit of coughing, with convulsions and dyspnoea. The surface of the body became of a deep purple colour, and the lips, tongue, and roof of the mouth, became almost black. These symptoms continued for about six or eight minutes, and then gradually abated; the child, however, never regained its natural colour, but remained of a dull leaden hue until death. The child was always cold, drowsy, and torpid, and grew very slowly. About three weeks before death the wrists and legs began to be oedematous; and, for the last fortnight of her life, there was evident fluctuation of the abdomen from ascites. Death occurred, during a severe paroxysm, at the age of 7 months and 8 days. On examination, the abdomen was found to contain a considerable quantity of fluid. The liver was dark-coloured and much enlarged, and on its surface were flakes of false membrane, the results of inflammation. The right lung was much larger than the left, and appeared better inflated; the left was compressed by the greatly enlarged heart. The pericardium was thickened, and contained two or three ounces of fluid, which, together with several patches of false membrane on the surface of the heart, indicated the existence during life of intense pericarditis. The heart weighed 3½ oz. Its position was natural. The right ventricle extended considerably more towards the left side than is usual, and the aorta arose from its base instead of the pulmonary artery. The left ventricle was situated almost entirely on the posterior part of the

heart, and gave origin to the *pulmonary artery*. The origin of the aorta was situated in front and to the right side of the pulmonary artery; its arch took the usual direction, and terminated on the left side. Its valves were of the usual number. The branches arising from the arch came off irregularly: the innominate and left carotid arose by a short common trunk, and the next branch was the left vertebral, and the third, the left subclavian. The *pulmonary artery* passed upwards, parallel to and in contact with the aorta, but behind and to its left side. Its orifice was not so wide as that of the aorta; its valves were natural. A little above its origin it was very much dilated; it divided, as usual, into its right and left branches, and the *ductus arteriosus*, which was completely closed, arose from the left branch, and was attached to the aorta in the usual situation. The right auricle was distended with blood, and its walls were remarkably thickened. The venæ cavae opened into it as usual; the parietes of the right ventricle were remarkably thickened, and its cavity was large. The right auriculo-ventricular orifice was much dilated; it was furnished with a tricuspid valve as usual. The left auricle was comparatively small, and had opening into it the pulmonary veins, which also appeared smaller than natural. The walls of the left ventricle were rather thinner than those of the right. The left auriculo-ventricular orifice was about half the size of the right. The mitral valve was natural. The ventricles communicated by a large opening in the upper part of the *septum*. The *foramen ovale* was closed, with the exception of a small opening of the size of a crow-quill.

Mr. T. W. King has given the particulars of a remarkable instance of this species of malformation.* The subject of this case was a child 2 years and 9 months old, a patient of Mr. Sanders, of Gravesend. There had been blueness of the lips and nails, and some discolouration of the face and skin generally. The child was tall but emaciated, and it never walked. It died rather suddenly. The right auricle was found to be dilated and hypertrophic. The *fossa ovalis* was large and cribriform, having apertures capable of admitting a black-lead pencil. The tricuspid valve was well formed. The right ventricle was large and strong, and contained a solid clot fully as large as a pigeon's-egg, of irregular shape, and lamellar structure, but softer within than without. The right ventricle was stronger than the

* Monthly Journal of Med. Science, 1844, vol. iv. p. 32. The fact that the main arterial trunks were transposed appears from the title of the case, but it is not expressly stated in the anatomical description of the heart and its appendages.

* Lancet for 1841-2, vol. i. p. 645.

left. The arch of the aorta was natural in size and structure, and in the distribution of the coronary and brachio-cephalic vessels. Below the attachment of the *ductus arteriosus* (which was quite closed) the aorta was rather small. The left auricle was of moderate size, and appeared to have received only two veins*. There was an opening between the ventricles larger than a crow-quill. The *pulmonary artery* was very wide; its valves were considered to be efficient, but scanty: its main branches were both of large size, but the right was much larger than the left. The heart is preserved in Guy's Museum, and numbered 1392⁴⁵.

II. *Transposition of the pulmonary artery and aorta: absence of communication through the ventricular septum and arterial duct: the foramen ovale open.*

Providing the description of the following case be complete and accurate, it affords an instance of a most singular and interesting malformation; but there appears to be great reason to believe that the author either overlooked certain important anatomical details, or in some way misinterpreted the appearances which he observed.

Mr. William Gamage has recorded the history of a female child, which was born at the full time, apparently healthy, but remained of a purplish hue, particularly in the lips and gums, and at the extremities of the fingers and toes. For two months, it showed no further symptoms of deranged organisation except uncommon feebleness and an indisposition to motion. But, in a short time, it became subject to frequent paroxysms of violent struggling; in which respiration was hurried and difficult, the face became black, the whole skin was injected with dark blood, and death seemed inevitable, but the child would recover after a fit, and immediately fall asleep. The paroxysms increased in frequency; it moaned continually, but never cried; the languor increased; it slept, except it awoke to suffer. Every movement was weak, every faculty ill performed. The right arm was paralysed, the eyes had a glassy appearance, aphthæ covered the mouth, and spread extensively on the nates: there was also considerable and distressing cough. Death occurred 15 weeks subsequently to birth. The whole heart was found distended with black and fluid blood to twice its natural size. The situation of its cavities was completely changed. The right auricle and ventricle were superior (anterior?), and to the left side of the chest; the left cavities were

towards the right side of the chest: the apex pointed to the right. The aorta descended on the right side of the spine; the vena cava was on the left. The *arteria innominata* distributed blood to the left, while the single carotid and subclavian were sent to the right. The position of the whole of the organs of the thorax and abdomen was in like manner reversed. The aorta was very small, and arose directly from what is commonly the right ventricle, and rode over the root of the pulmonary artery, which had its origin in the opposite ventricle. The veins were connected with the heart in the usual manner; the blood of the cavæ, therefore, was received into the same ventricle that gave origin to the aorta, and the pulmonary veins poured their blood into the ventricle from which the pulmonary artery had its origin. No communication existed between the aorta and pulmonary artery; the *ductus arteriosus* seemed never to have existed. The *foramen ovale* was open, and very much enlarged. Mr. Gamage considered that, through this aperture, the blood on each side must have mixed, that being the only way in which the body could have received one drop of arterial blood.*

It will be observed, that the malformation which is described to have existed in the above case, was very far more complicated than that which is noticed in the generality of instances of complete transposition of the thoracic viscera; for there, although the position of the cardiac cavities and of their respective arteries is reversed, the cavæ open, as usual, into the pulmonary side of the heart, and the pulmonary veins into the systemic side; but here, on the contrary, the aorta arose from that portion of the heart which was supplied from the cava, and the pulmonary artery was appended to that side of the organ which received its blood from the pulmonary veins. Thus far, Mr. Gamage's case corresponds with many of the other examples of transposition noticed in this chapter; but the most singular feature of the case is, that the only communication stated to have existed between the two sides of the heart was through the dilated foramen of Botal. Had the *ductus arteriosus* been pervious, or had the septum of the ventricles been incomplete, the case would have been perfectly clear; but, admitting the correctness of the anatomical description, it is difficult to perceive in what manner the circulation was carried on, as it can scarcely be conceived that a portion of the venous blood passed through the *foramen ovale* on its way to the pulmonary ventricle, and subsequently returned, in an arterialised state, through the same opening to reach the systemic ventricle. It is most

* The contracted state of the opening in the ventricular septum renders it probable that the other two pulmonary veins communicated with one of the cavæ or with the right auricle.

* New England Journ. of Med. and Surgery, vol. iv. p. 244: Boston, 1815.

probable that either one of the *venae cavae* opened into the systemic auricle (only one *vena cava* is mentioned in the detail of the case), or that some of the pulmonary veins opened into the systemic auricle, or into the veins which communicated with that auricle, or that there existed an unusually free anastomosis between the descending aorta and the pulmonary vessels.

It appears that another case somewhat similar to that related by Mr. Gamage has been recorded*, but I have only been able to meet with the following brief particulars, as cited by J. F. Meckel. The aorta arose from the pulmonary ventricle, and the *pulmonary artery* from the systemic ventricle; the *arterial duct* was altogether closed, but the *foramen ovale* was open to the diameter of from eight to nine lines. The child lived 2½ years.

II. *The primitive arteries transposed; the ductus arteriosus and foramen ovale pervious: the septum of the ventricles perfect.*

The following case was observed by M. Ducrest.† A female child, born at the Hospital of Maternité, never had its respiration perfectly established; it never uttered a single cry, and refused the breast as well as all liquids which were offered to it. The skin was of a rather deep blue colour, and, notwithstanding extreme weakness, and these unfavourable circumstances, it survived its birth 10 hours. On examination, the body was found to be fully developed, and the limbs well proportioned, and it presented in every respect the appearance of a child born at the full period. Each lung presented a double fissure which divided it into three lobes; the lungs floated, and appeared to be healthy. The aorta took its origin from the right ventricle, and gave off in the usual manner two cardiac coronary arteries. The trunk of the *pulmonary artery* arose from the left ventricle, and, after a short course to the left of the aorta, divided into three branches—two going to the lungs, the third representing the *canalis arteriosus*, uniting with the aorta towards the termination of its curvature. All these vessels were of their usual proportions. The ventricle from which the aorta originated, besides its position on the right side, exhibited all the usual characters which distinguish it from the left ventricle. The two *venae cavae* and the large cardiac veins terminated in the right auricle; the left auricle received the four pulmonary veins. The *foramen ovale* was furnished with a perfect valve which opened from the right to the left auricle. The *septum* between the

ventricles was complete. No unusual appearance was met with in any other part of the body.

A case of this description occurred to Dr. Wollaston, of St. Edmundsbury, and has been imperfectly recorded by Dr. Baillie.* A child, about 2 months old, was observed to have a most unusually livid skin, and the surface of its body felt colder than that of a child properly formed; the respiration was stated to be natural. After death, the heart was found to be of normal size; the aorta arose from the right ventricle, and the *pulmonary artery* from the left. There was no communication between these vessels except through the small remains of the *ductus arteriosus*, which was just large enough to admit a crow-quill. The *foramen ovale* was a little more closed than in a child newly born.

Dr. Farre† describes the case of a male infant (the eleventh child of a female six of whose infants were still-born at the full period) which appeared at his birth to have been well nourished. As soon as he was born, he began to cough violently. He lived 5 months, during which period he suffered from cyanosis, epigastric palpitation, coldness, difficulty of breathing, and cough. At the age of two or three months he had several fits, which were relieved by the warm bath. He received the infection of small-pox, and expired in a fit when the pustules began to appear. The aorta, with its ventricle, marked by its muscularity and figure, constituted the right portion of the heart; the *pulmonary artery* branched correctly; the origin of the *ductus arteriosus* was preserved, but, unfortunately, its connexion with the aorta was discovered by the manner in which the latter was truncated. The duct was too small to admit the rounded extremity of a common probe; the right auriculo-ventricular valve was tricuspidal, and the left mitral. The *foramen ovale* was imperfectly closed, the valve being cribriform, but the foramina were very minute. The lungs had a natural appearance.

The preparation in Guy's Museum, numbered 139240, is the heart of a young child in which the aorta arises from the right ventricle, and the *pulmonary artery* from the left; the *arterial duct* is open, the *ventricular septum* is complete, and the *foramen ovale* appears to be rather freely pervious.

A fifth instance of this kind is described by Dr. Walsh.‡

* Morbid Anatomy (Second Edition), p. 38, Engravings of Morbid Anat. Fas. i. p. 6, figs. 1 and 2.

† Op. cit. p. 29.

‡ Medico-Chirurgical Trans., New Series, vol. vii. p. 1 (1842). Dr. Walsh's paper contains many interesting particulars relative to this species of cardiac malformation.

* Winslow, System of Anatomy, vol. I.: Pennsylvania, 1811.

† Archiv. Gén. de Méd., Sept. 1840; and Edinburgh Med. and Surg. Journ. vol. lv.

The subject of this case was a decrepit-looking male infant, *etat.* 10 months, with extremely flaccid flesh, and slight cedema about the ankles. The skin was of a deep leaden colour, particularly the toes and the extremities of the fingers. The surface felt cool, and the infant appeared to suffer from chilliness: it was restless; its eyes were prominent and staring; the respiration was very frequent, and sometimes gasping; the pulse between 120 and 130. There was no abnormal murmur in the cardiac region, or in the course of the great vessels; the heart's action was tumultuous, and its impulse strong and widely diffused. The child died during a paroxysm (of dyspnoea?), death being in all probability hastened by a slight diarrhoea and pulmonary catarrh under which it suffered at the time. It was found that the aorta arose from the right ventricle, and, at its origin, slightly overlapped the pulmonary artery which sprung from the left ventricle. The aorta gave off the two coronary arteries in the usual way, and two subclavian and two carotid arteries arose from the upper border of the arch. The aortic and pulmonary sygmoids were well formed and healthy; the *ductus arteriosus* was pervious, and large enough to admit with ease a good-sized probe. The right auricle contained an enormous quantity of black grumous blood, and an adherent fibrinous mass was found close to its appendix. The walls of the left auricle were almost membranous: scarcely any muscular fibres were to be seen in them; its cavity appeared to be about one third as large as that of the right: it received the four pulmonary veins. The *foramen of Botal* was perfectly open, of an oval form: it measured about $\frac{3}{8}$ ths by $\frac{1}{4}$ ths of an inch, and was capable of being considerably dilated. The ventricles were transposed, that on the right side being furnished with a mitral valve; that on the left with a tricuspid valve. The *septum ventriculare* was not perforated.

It will be observed that in this, as in many other forms of malformation of the heart not primarily depending upon obstruction to the circulation, the children continued to be perfectly well nourished up to the period of their birth, but that symptoms of cyanosis became very apparent immediately the processes which tend to close the arterial duct and foramen ovale subsequently to the commencement of respiration began to operate. In M. Dugrest's case, respiration was never fairly established. In Dr. Wollaston's case, death occurred when the arterial duct had become very narrow and the foramen ovale had begun to contract. In the heart described by Mr. Stedman, the duct was closed, and the foramen ovale was barely

pervious. A nearly similar condition of parts was found in Dr. Farre's case. The death of Dr. Walsh's patient was in some measure due to acute pulmonary and intestinal irritation; but the immediate cause of dissolution most probably existed in the narrowed condition of the arterial duct. The cause of the cyanosis in these cases has been very clearly explained by Dr. Quain.

IV. *Transposition of the aorta and pulmonary artery, the auricular and ventricular septa complete, the arterial duct pervious.*

There appears to exist a class of cases of this description, but, as I have already stated, it is difficult to understand how the circulation can be maintained at all in a case of transposition of the vessels where there is only a *single* communication between the pulmonary and the systemic heart and their vessels. In these instances it must be concluded that some means of communication have escaped detection, unless we suppose that, in such cases as the following, life has been prolonged until the period at which the foramen ovale has become completely closed, when a sudden stop has been put to the circulation. This explanation is, however, not altogether satisfactory, especially as the details of the cases are by no means complete.

Mr. Langstaff mentions the case of a well-proportioned male infant which had cyanosis immediately after birth, and was much colder than natural. For three weeks it had only a slight difficulty in breathing, except when it sucked; but the impediment to the respiration gradually increased until it amounted to dyspnoea, during which the skin became still darker, and the temperature lower. At the age of 10 weeks it died suddenly in one of those paroxysms. The pulse was remarkably languid and small, sometimes obscure, and the bowels were disordered. The right auricle was found to be so much distended as to be nearly equal in size to the rest of the heart. The right ventricle was natural, except that the aorta arose from it; the left ventricle was as thin in its parietes as the right, and had a smaller cavity; it gave origin to the *pulmonary artery*, which communicated freely with the aorta by the *ductus arteriosus*, the size of which was proportionate to that of the other vessels*.

I have thought it necessary to state this imperfect case, but it is doubtful whether it does actually represent a distinct species of malformation. A careful examination of the specimen might decide this question, which, it will be perceived, is one of considerable physiological interest.

* Lond. Med. Rev. vol. iv. as cited by Farre p. 28.

V. Transposition of the primitive arteries: the ventricular and auricular septa pervious and the arterial duct open.

In cases where the aorta and pulmonary artery are transposed, and the ventricular septum is incomplete, it may, of course, be expected that the foramen ovale and the arterial duct will be found unclosed if the infant die within a few hours of birth: still, I am not aware that this has ever been observed in the human subject. In the heart of a lamb which had not lived longer than 2 days, J. F. Meckel* found the position of the pulmonary artery and aorta reversed, the aorta arising from the right, the *pulmonary artery* from the left ventricle. The *ductus arteriosus* was widely open; the branches of the pulmonary artery were small; the aorta arched to the left. The *foramen ovale* was open, and the *ventricular septum* was incomplete†.

The next chapter will contain a few observations on Cyanosis.

[To be continued.]

HISTORY OF
A CASE OF PLEURITIC EFFUSION,
IN WHICH PARACENTESIS THORACIS HAS
BEEN PERFORMED FIFTEEN TIMES.

By H. M. HUGHES, M.D.

Assistant Physician to Guy's Hospital.

[Read before the South London Medical Society,
January 21st, 1846.]

THOUGH a portion of the following particulars has been already published in one of the numbers of the Guy's Hospital Reports, the case has been considered so interesting, and in some of its features so very remarkable, as to have been deemed worthy of being laid before this Society, and through it, before the professional public in an entire and connected form.

Having rather recently, on more than one occasion, stated my opinions

on the general subject of "paracentesis thoracis," and having pretty fully explained my views of the indications which render its performance desirable, as well as of the probable amount of benefit it is calculated to afford in different forms of disease, and of the mode in which experience leads me to believe the operation should be performed, I think it unnecessary to enter into a consideration of either of these questions at the present time; I shall therefore confine myself to a simple relation of the case, with such brief remarks as the circumstances occurring in its progress appear to me to suggest.

But as I have been told by several friends that in a work recently published, which I have not myself seen, and which has obtained a favourable notice in one of the weekly periodicals, that a hint is not very generously given that of the cases of "paracentesis thoracis" which have been related by me (and this of course among the number), no notice need be taken, because they rest upon my individual assertions, I think it necessary to state that, independently of Mr. Cock and myself, under whose care he was during nearly the whole time, this gentleman was at different times seen by Sir Benjamin Brodie, Drs. Chambers, Bright, Addison, Babington, C. J. B. Williams, Barlow, Dr. Martin of Ventnor, Mr. Dodd of Ryde, besides a great many other physicians and medical men, and a great number of pupils at Guy's Hospital, who have been present at the performance of one or more of the operations.

H. W., aged 34, was admitted into Guy's Hospital, under the care of Dr. Addison, June 25th, 1844. He was a tall but thin man, of dark complexion, by profession a surgeon, and formerly a pupil of the hospital: his family were healthy, and he had himself enjoyed good health previously to the illness, the following history of which was, with some slight omissions and alterations, written out by himself.

He first felt unwell while residing in Port Philip, New South Wales, in November, 1842, and suffered from hoarseness and uneasiness about the throat, with some cough, which increased gradually, and was, about the time of rising in the morning, accompanied with expectoration of viscid mucus. This soon gradually increased, and

* Tab. Anat. Path. Fas. 2, p. 1, and Tab. ix. fig. 1.

† Meckel also refers to a similar malformation which he found in a bicephalous calf (p. 2). Besides the above instances, several other cases of transposition of the aorta and pulmonary artery have been recorded. Otto gives the following references:—Tiedemann, in his G. R. and L. Ch. Trevisanus Zeitschrift für Physiologie, vol. i. p. 1, tab. vii. E. D'Alton, D. de Cyanopathie Specie ex invicem permutata arterie pulmonalis atque aortæ origine. 4to. Bon. æ, 1824, with plates. Joseph Burkart, D. de Monstro Humano Notabili, Friburg, 8vo. 1825. Dugès, in Journ. Gén. de Méd. vol. ci. p. 88. Dr. Walshe also refers to a case by Martin in Müller's Archiv. H. iii. S. 22, 1839. The child lived ten weeks.

began to recur at intervals of half an hour. He became pale, emaciated, and debilitated, and had an anxious expression of countenance, with loss of appetite and dyspnoea, especially upon exertion. In this state he continued without the employment of any remedial measures till the 14th of February, 1843, when, while he was coughing violently during the night, his mouth filled with blood, of which he afterwards expectorated several mouthfuls, but then slept tolerably quietly till morning. The next day, as the hæmoptysis continued, he was bled to 16 or 20 ounces, and took the ordinary remedies without any benefit. After some days the hæmorrhage was at length stopped by half-drachm doses of ergot of rye, taken every four hours. By this medicine the number of the pulse was reduced from 96 or 100 to 60 or 50, and on one occasion to 48 in the minute. The other effects of the medicine appeared to be constipation and diminution of the quantity of urine. After three weeks he got out, went into the country, and lived well, but without any stimulants, which uniformly increased his cough. Still he got weaker and thinner, and in the following July he set sail for England.

After the exertion of attending an accouchement on board ship during the night of August 8th, he felt rather exhausted, brought up a little more blood with coughing, and suffered a slight increase of a pain in the right side, passing from the nipple through to the shoulder, which pain had existed more or less from the preceding January. For this he was cupped with relief. But he suffered from rigors, followed by heat and perspirations, during the evening, pain in the region of the liver, twitching about the abdominal ring, passing down the thigh, occasional pains about the left nipple, debility and emaciation. At this time the alvine excretions were dark and offensive, and sometimes black; the appetite was bad, and the pulse rapid. In October the vessel put into Bahia, where he took ten grains of calomel, followed by a purgative, three or four times in a week, by means of which the excretions assumed a natural appearance, and the abdomen became free from uneasiness.

On his arrival in England at the end of November, the right side of the

chest was found to measure an inch more than the left. He now consulted an eminent physician of considerable celebrity in thoracic affections, who considered that the right lung was consolidated, and that disease existed in the left lung; and recommended nitric acid and bitter infusion to be taken internally, and tincture of iodine to be applied externally. He went into the country, took a good deal of exercise in the open air, and lived well. He moreover applied occasionally leeches and blisters to the painful parts of both sides of the chest, and breathed through a tube with the hope of expanding the lung. Meanwhile he had some slight attacks of rheumatic gout, and in other respects got worse and worse, so that at length he followed the advice of Dr. Addison, and got admitted into the hospital on June 25th, 1844, as before stated.

He was then much debilitated and considerably emaciated; his pulse numbered 120, his dyspnoea was great, and he was quite incapable of lying on the left side, or on the back. He had very little cough, which was accompanied with trifling mucous expectoration; he had also a clean tongue and a good appetite, and he was free from nocturnal perspirations. The entire right side of the chest, including the whole length and breadth of the sternum, was very dull on percussion, was somewhat misshapen, and measured about half an inch more than the left side. Tubular breathing was heard throughout the whole of the right side, both behind and before, excepting in the parts above and immediately below the clavicle, and above the spine of the scapula, in which some harsh respiration, mixed with fine but loose mucous rattle, was indistinctly audible. The voice was moderately resonant over the whole side, and possessed a shrill ægophonic character below the angle of the scapula. The impulse of the heart was felt more than an inch nearer to the axilla than in the healthy state. The liver could not be felt below the ribs, nor was any sulcus apparent in the right hypochondrium, though both these alleged signs of empyema of the right side were sought for with some interest. There existed no general elevation, still less any bulging of the intercostal spaces; but a soft fluctuating tumour, nearly the

size of the palm of the hand, which dilated upon coughing, was observed to overlies, and to proceed from between, the sixth and seventh ribs.

On the left side, dulness on percussion, increased resonance of the voice, and imperfect respiratory manner, were observed in the mammary and hypochondriac regions; and just above and to the outer side of the nipple, over a space about the size of a crown-piece, increased dulness upon percussion, distinct tubular breathing, imperfect pectoriloquism, and gurgling, were clearly distinguished. The other parts of the left side presented nothing abnormal; and the heart, with the exception of its displacement, appeared healthy. In reference to the treatment it became an important question in the first place to decide upon the nature of the disease. It had already existed many months, and several months at least before the patient came under our notice the complaint had been pronounced to be consolidation of the lung by a highly qualified authority. It was not improbable it might turn out to be a malignant disease of that organ. Supposing an accumulation of fluid to exist, it might be a question whether it was desirable to withdraw it, and whether, after so long a period had already expired, it was likely that the lung would again expand. After many consultations and repeated examinations, it was resolved that the right pleura should at least be explored with the needle and canula. The presence of an abundance of fluid having been thereby ascertained to exist in the serous sac, the small trochar was introduced by Mr. Cock between the seventh and eighth ribs on the 27th of June, and ʒxxiv. of turbid yellow serum withdrawn in a full stream, and without the slightest inconvenience to the patient. He had, however, some increase of cough, and a slight hæmoptysis, during the following night: he was consequently desired to keep his bed, to preserve silence, and to take a grain of acetate of lead, and some extract of henbane, three times a day.

On July 3rd the increased cough had entirely ceased, the hæmoptysis had not reappeared, and he was in every respect better than before the operation. He was now advised to take three grains of iodide of potassium in compound decoction of sarsaparilla,

with a pill containing one grain of squill and four of extract of henbane three times a day, and to leave the hospital for a time for the benefit of a pure air.

July 15th, he was readmitted under my care. His general health had improved, but the condition of the right side of the chest was much as before, excepting that the soft flat tumor, which dilated upon coughing, had almost entirely disappeared; that resonance upon percussion now existed over the sternum, and that the dulness of the infra-clavicular region had decreased; the dulness and defective respiration of the lower part of the left side had also in a great measure disappeared, and the signs existing in the defined space near the left nipple had diminished in intensity.

July 6.—Paracentesis was again performed by Mr. Cock in nearly the same spot as before, and ʒxxxvj of similar fluid to that removed at the former operation were withdrawn in a full stream, without the admission of a bubble of air, and with great relief to the breathing. After the adjustment of a piece of lint and plaster, a flannel bandage was applied tolerably firmly around the chest; he was desired to keep his bed, and enjoined not to talk. He passed a comfortable night, had no increase of cough, and no hæmoptysis. The next day he got up and was employed in writing; he experienced not the slightest inconvenience, but on the contrary great relief, from the operation. He was ordered 2½ grains of blue pill and extract of henbane night and morning, and 20 minims of liq. potass. in infusion of orange-peel, three times a day; to have a pint of porter, and a good nutritious but unstimulating diet. After a few days' residence he again left the hospital for the country. He was re-admitted July 30th. A very gratifying change was now apparent: the girth of the entire chest measured at least two inches less than formerly—the decrease being nearly equally divided between the two sides. He could lie and sleep on his back and on his left side without uneasiness; his tongue was clean, his general health had greatly improved, and his breathing was comparatively easy. The entire sternum was now resonant on percussion, and the upper part of the left

side, nearly as low as the nipple, had regained its sonorousness. The vesicular murmur was audible over the right scapula posteriorly, and though harsh in character, and mingled with mucous rattle, as low as the nipple anteriorly. The right side expanded upon inspiration almost as freely as the left side, and the impulse of the heart was now felt nearly in its normal situation. The dulness, gurgling, and resonance of the voice, formerly existing near the left nipple, had almost entirely disappeared, the particular spot being indicated principally by a little muco-crepitating rattle. But increased resonance of the voice was still observed below the right clavicle, and though the soft tumor over the inferior ribs had disappeared, dulness on percussion, and distance of the respiratory murmur, existed in the whole of the lower part of the right side, both before and behind. It now became a question whether it was desirable to leave the remaining fluid to be absorbed, or again to introduce the trochar. After consultation with Mr. Cock, it was considered better, as he formerly suffered scarcely at all from the operation, to draw off some more of the fluid, than to trust to the slower and more uncertain process of absorption. Twelve ounces of fluid were accordingly drawn off, similar in character to that previously evacuated. We were gratified to find that it now flowed much less freely than before, yet no air was allowed to enter the pleura. A flannel bandage was applied as before, and he was enjoined silence, and to keep his bed for twenty-four hours. In a few days he left the hospital to go into the country for two or three weeks, the grey powder being substituted for the blue pill, which he fancied disordered his bowels.

August 23.—He again returned to the hospital: he had continued the mercurial so as gently to affect the mouth, and had then laid it aside. His aspect and general appearance, now healthy, had created great surprise in the district which he had lately visited, and which he formerly left an emaciated individual, doomed, as it was supposed, never to return alive. His cough was now trifling, and only occurred upon walking and talking a deep inspiration; he was able to lie down in any position without difficulty,

and to walk several miles without distress or fatigue. He had no expectoration and no dyspnoea; his respirations while at rest were 22 in the minute, and his pulse 96; the tongue was clean, and his appetite good. The right side was still raised efficiently during inspiration; the resonance on percussion and the respiratory murmur were almost natural as low as the nipple, but below this point anteriorly, and below the angle of the scapula posteriorly, in which latter situation some dry rubbing was now clearly distinguished, dulness on percussion, and distance of the respiration, were still present. The girth of the chest had not increased since the last admeasurement. As, therefore, there appeared no evidence of the re-accumulation of the fluid, and as he was advancing in every respect satisfactorily, it was not thought desirable again to use the trochar. He was recommended to apply repeated blisters to the side, so as to keep up a constant discharge, and to take in the form of pil. gr.ij. of iodide of potassium, with half a drachm of extract of sarsaparilla, and ten minims of liquor potassæ, in an ounce of decoction of bark three times a day. With this advice he left the hospital August 28th, and having presented himself merely for examination on Sept. 3rd, quitted London, with the intent of engaging in some professional occupation in the country.

Up to this point the case has been published, as already stated, in one of the late numbers of the Guy's Hospital Reports, and hitherto it had presented nothing very unusual. It had simply been a favourable, and, under the circumstances, and as far as it had gone, a successful case of "paracentesis thoracis."

Nov. 5, he was re-admitted to the hospital. His health was good, but his pulse reached 108, and his respirations 24 in the minute when he was quiet; his functions were performed naturally; he had no indications of further disease in the lungs, but there existed evidence of an increase of fluid in the pleura. On the 7th, Mr. Cock drew off 3xxxvj. of fluid similar to that formerly evacuated, the exit of the effusion being assisted by tilting the body towards the opening. A flannel bandage was applied, and he kept his bed for twenty-four hours. The next day he was up, and perfectly well in

health: his pulse was then 84. Seeing that there appeared in the present state of the secreting surface but little probability of the lung fully expanding, or, at his age, of the ribs falling in so as materially to contract the cavity in the pleura, it became a question whether a mercurial course, carefully administered, might afford him a better chance of recovery, by altering the action of the diseased serous membrane, and possibly removing some portion of the unorganizable deposit presumed to exist upon its surface, than a repetition of the operation. This was proposed to him as a medical man. He wished to have the opinion of Dr. Bright, the consulting physician of the hospital, upon the proposal, before it was adopted, and that physician having acceded to the proposition, upon the principle "*anceps remedium melius quam multum*," he was (Nov. 13th) ordered to rub 3j. of the strong mercurial ointment into the thighs night and morning. He was confined to one room, and at the same time allowed two mutton chops and 3iv. of wine.

Nov. 18.—With the view of keeping the serous sac as clear of fluid as possible, 3vij. were this day drawn off, the effusion being of the same semi-transparent character as before. During a sudden inspiration, for which we were unprepared, he drew into the pleura a considerable quantity of air: it was the first that had been admitted. He did not suffer from the operation more than on former occasions, but from this time the splashing of succussion was clearly distinguished by himself and others, and the anterior part of the chest became in the recumbent posture tympanitically resonant on percussion, though it was quite dull while he was erect.

Nov. 26.—He had been fully under the influence of mercury for some days. In connection with this fact it may be observed that his urine had been frequently examined, and constantly found free from albumen; the pulse had increased in frequency; he was unable to eat from the soreness of his mouth, and he looked pale and thin; he had no pain and no cough; succussion was still perceptible, and a gurgling, arising apparently from admixture of air and fluid, was distinctly felt by himself, and heard by others, when he assumed the erect position or when he lay down

on his bed. Twelve ounces more of turbid fluid were now drawn off, and together with the fluid a little air was evacuated, by means of forcible expiration exerted while he was lying upon his back. He was now ordered some quinine in the infusion of roses, various gargles for his mouth, beef-tea for diet, and his wine as before.

Dec. 21.—The effects of the mercury having greatly diminished, and the fluid having, notwithstanding its employment, again increased, the operation of paracentesis, deferred to this day only on account of the severe weather, was performed as before, and by inclining the body 3xviiij. of fluid were with difficulty evacuated. The next day he was sitting up writing.

Jan. 8, 1845.—The effects of the mercury having ceased, his pulse being 80, his health improved, having no dyspnoea and no cough, he again left the hospital for the country. From this time I preserved no connected notes of his case, but the following facts may be stated from memory, and can all be confirmed by my colleague, Mr. Cock. He had for some months been preparing himself for the church, and after remaining well for several months, without any material increase of the fluid, he was upon the point of submitting himself for examination for ordination by the Bishop of Australia, when, after exposure to cold, he was unfortunately attacked with bronchopneumonia of the right lung, which was supposed previously to have been considerably diseased. For this attack, which was severe, he again placed himself under my care, August 14th, 1845. He was treated by antimony and opium, and two grains of calomel at night, with conium mixture, spirits of nitre, and antimonial wine during the day, for a few days with good effect, and subsequently with astringents and tonics. After staying three weeks, and when the pneumonic attack had been quite subdued, he left the hospital, with his health greatly shattered, and the right lung itself unfortunately much damaged. Our hopes of his ultimate recovery were now sadly damped: he went into the country for the benefit of the air; but during the next six months he had frequent occasion to come to town to have the fluid evacuated. On these occasions quantities varying from one

as four pints of fluid were drawn off, but it was remarked that since the admission of the air, and especially since the attack of pneumonia, the fluid had become more and more purulent. On these occasions, for the purpose of evacuating as much fluid as possible, he was accustomed to rest his body on the bed, and his right hand on the floor, and to prevent the ingress of air into the pleura by making a stop-cock of the finger of his left hand when the fluid became low and he wanted to inspire. He would strain, and by thus compressing the contents of the thorax the fluid would flow freely, and before the effort was discontinued he would stop the canula with his finger, and then breathe several times; after which another effort would be made, till at length he became tired, and his breathing became troublesome, when the canula was withdrawn.

These operations he would only allow Mr. Cock to perform, and always requested my presence for the purpose of examining his chest, and assisting my colleague. They were performed eight or ten times; but at length after several months he got tired of the trouble and expense of coming to town from a distant county for the purpose, and as he would allow no one to perform the operation but Mr. Cock, he strangely determined to learn to perform it himself, and, after instruction actually did so in Mr. Cock's and my presence at his lodgings in Kensington Oval, in the neighbourhood of which resided a lady to whom he had long been engaged, and to whom he was then soon to be married. The lady was acquainted with the whole of the circumstances of his case, and had often visited him while in the hospital. At this time his health had again greatly improved; he might indeed be stated to be quite well, with the exception of the affection of his pleura, which appeared to be quite local. He was married early in the year 1846. Since this time, now several months ago, the operation has been necessary only once, when he tapped himself at Ryde, in the Isle of Wight, in the presence of Mr. Dodd, of that place, Dr. Martin of Ventnor, and another gentleman whose name I do not know. Some venous hæmorrhage followed, but no other accident occurred. This was the fifteenth or sixteenth opera-

tion, and was performed April 1st, 1846.

Oct. 3rd, 1846.—He called on me with his wife in his passage through London, in his way to Pau, where he proposed to pass the winter. It was now six months since the last operation had been performed. He appeared in better health than I had seen him since he returned from Australia, and he had no appreciable dyspnoea. His functions were naturally performed, and his flesh was firm: his chest was not misshapen; the right side was raised much more perfectly than when I last saw him; the intercostal spaces were naturally depressed, and dulness on percussion existed anteriorly only below the left nipple, above which the respiratory murmur was only a little more harsh and coarse than natural, and was altogether free from any admixture of morbid rattles, and below which the respiration was imperfect and distant, but not tubular. Posteriorly dulness still existed to a considerable degree throughout; but the respiration was audible and unmixed with rattles in every part, though less and less distinctly as the ear was removed from above to below. The heart was clearly not in its ordinary situation; it was now considerably drawn over towards the right, or diseased side. This circumstance was supposed to arise from the gradual contraction of the parietes of the formerly large cavity in the pleural sac, and was therefore an indication of good. The impulse of the heart was felt, and the sounds most distinctly heard, on the right side of the centre of the sternum and a little above it. There appeared no evidence of the presence of any air in the right pleura. The only remaining trace of disease in the left lung was a little local harshness of the respiration in the part above the nipple formerly specified. He moreover stated, that his appetite was good, and he appeared in excellent spirits. I have not since heard of him, as it is, I think, probable I should, had anything untoward affected his chest or general health.

I have thus simply related the facts of this very remarkable and gratifying case, the circumstances of which must be acknowledged by all to be at least very peculiar; if, indeed, they may not be regarded as unprecedented. I have

intentionally confined myself as much as possible to a relation of facts,—a detailed account of which, however, might have been indefinitely prolonged. It has become already sufficiently long. I trust that its intrinsic interest in a pathological as well as in a therapeutical point of view will have prevented its having become more than sufficiently tedious.

A NEW
MEANS OF DIAGNOSIS OF THE
AFFECTIONS OF THE NERVOUS
SYSTEM

BY IRRITATION OF NERVOUS TRUNKS.

BY AUGUSTUS WALLER, M.D.

THE cerebro-spinal system is the seat of the mind, and the source of all muscular power. Completely immured in an osseous case composed of many pieces, it is inaccessible in ordinary conditions, and receives ideas, and transmits muscular actions, solely by means of the nerves. For instance, in the organ of vision, the images of objects are made to fall upon the expansion of a particular nerve, which conveys the impression to the brain, where sensation of the object is perceived. The other senses act in a similar manner, though they are differently disposed. When that portion of the brain which receives impressions from any particular nerve is diseased, or functionally affected, its sensations are either altered or perverted, or none take place at all. By carefully examining these perverted sensations, we are enabled to ascertain in some measure what part of the brain is affected, and the nature of its lesion. Hitherto pathologists have confined their attention to the sensations which arise from the *extremities* only of the nerves. But instead of acting merely upon the *extremities*, we may examine the condition of the nerve at some intermediate point between its commencement and termination at the brain. When this is performed upon an individual in a state of health, it is found that various sensations are perceived in the brain which are very different from those caused by acting upon the *extremities*. Hitherto this subject has remained totally unexamined, although

it promises many results which cannot fail to be useful in the diagnosis of the state of the brain and spinal marrow. It is therefore my intention to describe the symptoms to be derived from this mode of investigation in the cases where it is applicable.

We may at once state, that all the special senses of the brain are provided with nerves entirely inaccessible to direct examination. It is only those belonging to the skin and muscles which can be attained, and even of these there are but few which are conveniently placed for the purpose. A few of the latter are so placed as to be liable to frequent irritation from external agents without injury to the skin which covers them. The irritation of one of these at the elbow is of frequent occurrence, and the peculiar sensation which is then created is well known to every one.

My attention was first drawn to this subject by observing, while I was examining, several years since, a patient affected with spasmodic movements of one hand, that pressure on the ulnar nerve at the elbow had a peculiar and unexpected effect in increasing these movements: for whenever the nerve on the side affected was rolled under the finger, the spasmodic actions appeared instantly, and were very energetic; whereas the same manipulation of the nerve of the other arm produced but a very slight effect. By extending these observations to other cases of affections of the nervous system, I have found several results, not only of an interesting nature in themselves, but also of much importance as a means of diagnosis of the diseases of various parts of the nervous system.

The manner in which I have examined the nerves resembles that adopted by Müller, who, however, only employs it in a physiological point of view. Simple pressure on the nerve is repeatedly recommended by various writers on the subject in order to ascertain if they are the seat of any partial tenderness, as frequently occurs in cases of neuralgia, &c. A slight attention will show, from what I am about to relate, that the process I have employed, and the symptoms which I have obtained from it, are of a very different nature.

The nerves most suitable for observation are the ulnar, median, and pero-

neal. The ulnar nerve may be easily detected at the inner part of the elbow in the groove formed by the olecranon process and the inner condyle of the humerus. It is there felt like a hard cord loosely fixed, which may be moved by the finger from side to side. With a little experience it will be very easy to push the nerve aside, and render it so tense that when it slips from under the finger a peculiar dull sound is perceived. As this sound arises from a vibratory movement of the nerve, I have, for convenience, termed this operation vibration of the nerve.

The trunk of the median nerve may be examined in the same manner at some part of its course down the arm where it is most superficial, and when the skin is thin, and little fat beneath, it will emit likewise a similar sound. In most subjects where there is not much accumulation of fat under the skin, the peroneal nerve, at the point where it winds round the neck of the fibula, may be examined, and even vibrated in the same manner as the others before mentioned; however, as it is not so easy to find, I advise those who wish to do so to make themselves previously familiar with its exact anatomical situation. The other nerves which I have examined in the same way, but without causing sound, are the trunks of the brachial plexus at the internal angle of the clavicular joint, the radial nerve when winding round the humerus, the supra-orbitary, and, in some cases of anomalous distribution, a branch of the peroneal nerve at the part where it passes over the lower portion of the fibula.

As it may be imagined that vibration causes much pain, I beg leave to state that I have never found it necessary to compress or vibrate a nerve in such a way as to cause any considerable degree of pain, and that I have always been enabled, by a gentle and graduated pressure, to obtain all the information it was capable of conveying as well as if a more violent pressure had been used and consequently more pain created.

The ulnar nerve being more readily examined than any other, most of the observations I have made apply to this nerve. When a person without any perceptible affection of the nervous system, and in what is termed a good state of health, is examined in this

way at the arm, it will be found that an equal pressure on the two ulnars produces the same effects on both sides. The phenomena which are observed are of two kinds, the motory and the sensorial.

Motory effects.—When the nerve has been stretched sufficiently to cause a slight sound, a slight flexion of the two last fingers is generally produced, and frequently of the whole hand. In persons of a vigorous constitution the flexion is scarcely perceptible; in others, more particularly females, the movement of flexion is frequently considerable in the hand and forearm. Another effect, which may be classed with the former, has been perceived by several females in health. This is a general lassitude, or sensation of fatigue, in the whole limb, as if it had been violently exercised. This sensation in the muscular parts of the limb sometimes continues for the space of fifteen or twenty minutes.

Sensorial effects.—These are more numerous than the motor effects. As a general rule, it is found that the motor actions are greater when the sensitive effects are considerable, although I have found several exceptions to this rule: thus, sometimes vibration will cause a very sharp sensation and no flexion, and at others the motor action is considerable when but little sensation is created. The sensitive effects are—

1st, That which is felt at the elbow over the point compressed. Many persons experience this alone.

2d, A descending pain to the two last fingers, which appears sometimes to extend to the palm of the hand. Most persons compare this to the pricking of pins and needles. Müller states that, by increasing the degree of pressure on the nerve, the pain is felt up the forearm. I have not as yet been able to verify this statement.

3d, An ascending pain is felt, which is referred to a point near the acromion process.

4th, A sensation of formication is created, which remains for several minutes after the pressure is withdrawn. This is generally situated in the two last fingers.

In affections of the nervous system, the symptoms offered by the ulnar nerve may be stated, in a general way, as being either heightened or lowered beyond a certain standard in the way

we find most other functional symptoms. Moreover, as in diseases of the central part of the nervous system it is generally found that the two sides are scarcely ever affected in the same degree, the vibration of the nerves will discover a considerable difference in the symptoms of the two sides.

As these symptoms vary so much in different persons, even in healthy subjects, it is impossible at present to give any absolute rules for ascertaining the existence or absence of disease by them alone. In this respect they resemble all those derived from the sensitive or motor powers of the economy. Thus, one person may suffer much more pain than another from the irritation of any sensitive part, independently of any general or local affection of the nervous system, which is also the case with regard to the muscular powers within certain limits. We must therefore principally direct our attention to ascertain whether there exists any difference in the sensitive and motor powers of the two sides of the body, which invariably indicates some pathological condition of the nervous system. By attending to the relative state of the two nerves similarly placed on the two sides of the body, symptoms may be obtained which are very valuable in themselves, and still more so when used in conjunction with the usual means of diagnosis. We shall find, according to circumstances, on the side affected, increased or decreased sensibility, increased or decreased motor power. The nature of the sensation will likewise sometimes be found altered on the side affected. Thus, on one side the sensation will be felt in an ascending direction; whereas on the other nothing of the sort will be perceived. By comparing these symptoms with those arising from the skin or muscles to which they are distributed, it will be found that the relations existing between them are not invariable; for the sensibility of the skin may be greatly diminished on one side, while that of the nervous trunk on the same side will be scarcely affected; and in some cases it will even be found that while the skin has become insensible, the sensibility of the nervous trunk itself is increased. The same observations apply equally to the motor effects and condition of the limb. These phenomena offer con-

siderable interest in a physiological point of view, and will afterwards be carefully considered in that respect.

I shall now proceed to give a brief description of some of the cases to which I have applied this means of diagnosis.

CASE I.—M—S— had a severe fall on the sacrum. A few days after there appeared paraplegia of the lower extremities; the insensibility of the skin reaching upwards to about the umbilicus. Over these parts it was insensible to irritation of various kinds, and the muscles had lost all power of voluntary movement. During the course of a month, although subjected to active treatment, her symptoms were rather aggravated than alleviated. Occasionally there existed inability to void the urine, and the upper limb on the right side became implicated. Its motor and sensitive powers were extremely imperfect,—she compared it to a limb which was numb. At irregular intervals she experienced considerable difficulty in fetching her breath. Vibration of the ulnar nerve on the side affected caused generally flexion of the thumb and fingers, and a slight sensation of tingling down to the two last fingers. On the opposite side it produced no flexion of the fingers, but a sensation of tingling much sharper than on the other. This patient ultimately recovered the use of her limbs principally from the continued application of moxas over the spine. After her recovery, ulnar vibration produced the same effect on both sides, viz. a sharp tingling, but no flexion.

CASE II.—Mrs. L—, aged 51. Relates, about nine years ago, after suffering some time from pains in the head, she found herself, on awaking from sleep, with the following symptoms: inability to articulate, deviation of the mouth to the right side, incapacity of closing the right eyelid, and of retaining the saliva. She has not perceived that either the strength or the sensibility of the limbs have been affected, but has frequently experienced numbness on the right side of the body. When subjected to my inspection most of the above symptoms still existed, though they were much slighter than formerly. The mouth was slightly deviated, the eyelid unable to be closed without effort, the skin on the right side of the face rather less

sensitive than on the other. At the same time I found imperfect sensibility on the right side of the body. Taste also impaired on the right side of the tongue. Ulnar vibration in this case caused less sensation on the side affected, while the motor effects were greater on the opposite side.

CASE III.—Mr. P—, after exposure to the rays of the sun, had congestion of the brain, causing tremor and weakness of the right arm, but without the sensibility of the skin being affected. Ulnar examination caused slight flexion of the fingers, and much pain on the side affected; on the other side the same degree of flexion was produced, but the sensibility was much less.

CASE IV.—T. S. Had a severe attack of lumbago, the pain of which was so great as to deprive him of all power of moving the trunk and lower limbs. At the commencement of the complaint there existed much obscurity in the symptoms, and uncertainty whether or not to refer them to nephritis. The peroneal nerve as it winds round the fibula was examined, and caused severe ascending pain, which he referred to about the tuberosity of the ischium.

CASE V. (Collins) was very similar to the foregoing, except that there existed remissions from pain during which the limb was comparatively easy, while at other times the most excruciating pains extended down the back part of the limb as far as the toes. Vibration of the peroneal nerve caused an ascending pain, which he referred to the point of its exit from the pelvis, and also down to the sole of the foot. At the same time there was caused a contraction of the muscles of the leg and flexion of the foot. I found it requisite to manipulate the nerve with precaution, as otherwise an increase of pain was produced, which lasted more than half an hour afterwards.

CASE VI.—W— B—, aged 15. Congenital debility and atrophy of the left side of the body. Intellect very imperfect; defective vision and speech: general muscular debility. Ulnar vibration on the left side caused considerable flexion of the fingers, hand, and forearm. On the opposite side it produced only a slight flexion of the fingers: on both sides the sensibility

of the nerve was apparently the same.

CASE VII.—Mrs. B—. The following case deserves more ample detail, as it strongly illustrates the utility of ulnar vibration in cases of stupor or insensibility from whatever cause they may arise. She had been subject for many years to palpitation of the heart, and dyspnœa at irregular intervals: on one occasion had oedematous swelling of the lower extremities. Her mind had become much impaired, and she would remain several days consecutively in bed, scarcely uttering a word. When first seen by me, she had been in bed more than a fortnight. At that time she was groaning loudly, and occasionally articulating words, though unconscious of their meaning. When a liquid was placed at her lips she swallowed it eagerly, but she was insensible to every question addressed to her. Auscultation detected a considerable mucous rônchus in the lungs, and a violent and irregular action of the heart, with an irregular pulse at about 140. The mouth was slightly deviated to the right, and the tongue when protruded followed the same direction, but as she had lost all her teeth, and the friends stated it was her usual appearance, the cause appeared doubtful: pupils equally contracted. Induced by some of the symptoms, I examined the state of the ulnar nerves. On the right side the muscular effects were strongly pronounced, without any appearance of pain being produced. On the opposite side a much greater degree of sensibility was manifested, as appeared from her endeavouring to withdraw the arm, but with no flexion of the fingers on that side. Irritation of the skin gave no positive symptoms of the pain on either side. These results induced me to diagnose a cerebral lesion in the left hemisphere, probably situated in the thalamus opticus (Foville and Andral), in addition to the former condition of the heart. Subsequently the patient rallied considerably, and lived for about a month after, and I was enabled to ascertain from her that the irritation of the nerve caused much greater pain on the left side, and likewise that any irritation of the skin on the same side caused much more pain than on the other, which I had been unable to detect. I was exceed-

ingly anxious to ascertain the state of the brain after death, but was unable to obtain the consent of the relatives of the deceased. In practice we frequently find cases where, from the existence of severe suffering, nervous debility, or other causes, it is very difficult to obtain any answer to our questions, upon which to frame the treatment: on several occasions of this sort the examination of the ulnar nerve will serve to elucidate many doubts, either by the positive or negative answers which it gives.

CASE VIII.—Mrs. W.—Had been vomiting violently for more than an hour before I was requested to see her. The cause of the attack was found to be from certain articles of diet of an indigestible nature which she had taken. But as she frequently placed her hand on one side of the head, and there was appearance of much pain in that quarter, with congestion of the face and eyes, I was led to examine the condition of the ulnar nerves. On the side opposite to the part of the head in pain, I found greater sensibility and less motor action. After complete recovery from this attack, I was told that several years previously she had suffered from inflammation of the brain, and since then her head had frequently pained her, and the stomach was much more liable to discharge its contents. Irritation of the nerves produced the same effects after recovery from the last attack, and continued to do so when I examined them two years after. She stated that on the side where the nerve was affected she frequently let things fall from her hand, and sometimes experienced a sensation of weight and dull pain which had been attributed to rheumatism, and treated as such.

CASE IX.—Miss E. I. age 16. Ever since her birth it has been perceived that the left side was weaker, and the left leg shorter than the other. She has frequently suffered from pain, and any extra exertion of the mind is liable to produce it. Subsequently to an attack of measles there appeared inflammation of the brain attended with delirium, violent throbbing pain in the head, and a state of somnolency or watchfulness at irregular intervals. During the continuance of the com-

plaint, which lasted about five weeks, the organs of vision, hearing, and smell, were each in turn in a state of sub-excitement, followed by a corresponding state of depression or obtuseness. The upper and left limb became nearly paralysed in motion, and sensation, and the seat of various and intense pains, resembling tingling or the application of heat or cold. The effects of ulnar irritation were variable at different periods of the disease. During the period of excitation and delirium, the least irritation of the skin caused great pain, but only a slight motor action. At a later period, when the irritability of the skin was diminished, the motor effects were much greater, and the pain much less.

I will confine myself at present to the above cases, as I consider them sufficient to illustrate the principal symptoms to be obtained by this mode of investigating the state of the nervous system. Several of these observations, whether considered merely as eliciting novel facts, possess claims to the attention of the medical public. But it is principally as a means of testing the symmetrical distribution of nervous influence, and as a practical means of diagnosis, that I wish to present them to the profession. As this process, unlike what has been termed the electrical test, or even the stethoscope, requires no particular apparatus for its application, I hope that before long it will have been tried and corroborated by the profession generally.

Kensington, Jan. 1847.

[To be continued.]

SECRET OF SUCCESS IN MEDICAL PRACTICE.

SKILL and art alone are not sufficient. He (a medical practitioner) must be particularly mindful of his conduct. It is this which recommends him to the public, and creates confidence; for as the generality of people are incompetent to pronounce on his science, it is natural for them to take the measure of his ability from the measure of his conduct. By force of conduct alone, a physician, of very moderate talents, may become the favourite of the public; and without it, the most skilful professional man remain unnoticed and unappreciated.—*Hufeland*.

MEDICAL GAZETTE.

FRIDAY, FEB. 5, 1847.

THE ease with which the reputation of a public medical officer may be damaged—nay, irretrievably ruined—by privileged *ex parte* statements, was perhaps never more strikingly shown than by certain recent proceedings in the House of Commons. We allude to the very serious charges brought by Mr. Duncombe on Friday last, against Mr. Bossey, the medical officer under whose care the sick convicts at Woolwich are placed. Mr. Bossey is perfectly unknown to us, but he is a member of the medical profession; and he therefore deserves that protection against injustice which it is in the power of the medical press to afford. It is to us inconceivable, that any well-informed man should be so credulous as to believe such a series of (to use the mildest language) gross exaggerations; or, in believing them, that he should, without stating his authority, publicly name the medical officer whom he thus charged with the most foul and savage conduct. Yet this appears to be a specimen of English justice:—a charge palpably untrue in the opinion of the Home Minister and a large majority of the members, is publicly made: the accusation is circulated by the press through the length and breadth of the land, the name of the secret accuser is concealed,—a serious injury is thus done to the reputation of a medical officer with whose conduct the Government is perfectly satisfied, and the injured party is, so far as we can perceive, without any redress. A committee of inquiry has been refused,—a result at which we cannot be surprised; for why should there be a formal

inquiry into matters in themselves incredible, and when no authority for the statements is given? The Home Minister, much to his credit, stated in plain terms, "that he utterly disbelieved it was possible that gentlemen holding the offices of surgeons and superintendents of convicts, could be guilty of the conduct which had been alleged against them." To have granted a committee of inquiry upon such a series of absurd charges, made by some anonymous accuser, probably a discharged menial, — a personal enemy, acting from bad motives, — or a discontented convict, would have given some importance to them, and have conveyed to the public mind the impression that there must have been some ground for the allegations; that atrocities which would disgrace a New Zealand savage, might be secretly perpetrated by a Government medical officer, within a few miles of the metropolis, without the facts becoming known to his superiors even by rumour! It is true that the refusal of a committee of inquiry has been in one respect unfortunate for the party against whom the anonymous accusation has been brought; since he is not now able, as under other circumstances we believe it would be in his power, to prove that the charges are false, scandalous, and unfounded: and that his secret accuser was not a person upon whose testimony any court of justice or committee of inquiry could rely. If we are mistaken in this estimate of the secret accuser's character, he or his abettors will now not hesitate to come forward and announce themselves despite all personal consequences: as, if the accusation be proved true, they will have the protection of the public, and if proved false, they will only be doing to a professional man, whose character they have maligned, that justice which all

who have been subjected to grave anonymous charges have a right to expect. It was unfortunate that the Home Minister was not so well-informed of the medical as of the non-medical details respecting the treatment of convicts. If, however, one set of charges be unfounded, there is good reason to suspect all, or, at any rate, to infer that there has been gross exaggeration. Thus, with respect to corporal punishment, the honourable gentleman who appeared as the public accuser of Mr. Bossey said:—

“An overseer could inflict any amount of corporal punishment. There was no magistrate to interpose, no inspector, as in Millbank Prison, before whom the prisoner could be brought and have an opportunity of stating his defence. *In many instances severe corporal punishment was inflicted, just as the overseer thought proper, when he thought proper, and without trial.*”

He then entered into some details of cases. Upon this part of the charge, which did not affect the medical officer, the Home Secretary remarked:—

“The house would not receive without some qualification statements made either on the authority of prisoners or on representations which were not guaranteed. The hon. gentleman particularly referred to corporal punishment; but what would be thought when he (Sir G. Grey) informed the house, upon the authority of a letter received by the Secretary of the Admiralty, from Sir G. Bremer, superintendent at Woolwich, that he found that there had been *only one case of corporal punishment within the last four years?*”

So that *one* case of corporal punishment within the last *four years*, certified upon unquestionable and declared authority, is turned into the infliction of “severe corporal punishment in many instances,” *when* the overseer

thought proper, and without trial! May we not say here, *ex uno disce omnes?* But this always happens with anonymous accusations. The secret accusers are shielded from responsibility, and care little about the terms in which they cause a charge to be made by another, provided it can only be brought before the public.

It is time, however, that we should make a few remarks upon the charges put into Mr. Duncombe's mouth respecting the medical (?) treatment of the convicts by Mr. Bossey;—“conduct more brutal (said the honourable member) could not possibly be described or conceived.” If we quote the alleged cases of brutality and cruelty, it is in order to justify an opinion which we have already expressed, and one which we feel our readers as professional men will not hesitate to adopt,—namely, that among them there are some which carry with them intrinsic evidence of their untruth, while others are palpable exaggerations. (The italics are our own.)

“George Monk, or Taylor, belonging to the Warrior, a lunatic; he was admitted on board with a broken leg: *he was allowed to lie in bed in his own water and filth until such time as a large piece fell out, putrid with his urine, from the bottom of his back bone.* He was sometimes handcuffed to each side of the iron bed which he lay on, at other times with a strait-jacket on; he, if he were living, bore the mark on his back. This man was afterwards removed to Bethlehem.”

The next case which his informant mentioned was that of—

“An old man of the name of Peter Bailey. When Mr. Perry called, he told Mr. Bossey that the poor man ought to be sent home, and they passed on to other prisoners. This poor man got daily worse; he asked Mr. Bossey if he could see a religious person belonging to his own persuasion. He asked him what that was? He told him he belonged to the Wesleyan Methodists, and said, laying great stress on his words, ‘What

brought you here?" He then began to relate a life of the most simple nature, at which Bossey began to laugh. 'Sir,' said he, 'you have more occasion to pity me than to laugh at me.' Bossey turned round to him and said to him, 'It is of no use your imagining that you will ever go home, for home you will never see; you will die on that bed you are lying on: for, were your friends at the gates of the Arsenal, they might come to see you; that would be all the consolation you should derive.' He died a few days afterwards. I called to see him the Friday before he died; he told me that he had a pain at his heart ever since Mr. Bossey's conversation with him, and said, 'He has broke my heart.'

"The next man that came under my notice was William Theobald, belonging to the Justitia. This man was subject to epileptic fits, besides great weakness of body. Mr. Bossey called one day when he was in a fit, and said, 'he should soon cure him.' He ordered a bucket of water to be brought to him; he got upon his bed; he ordered a tin to be given to him, and he commenced pouring the water on his head, which had no effect. The next day he saw him, and told him he should have him well flogged if he found him in any such fits as those again. He died on the 31st of July, 1844. The diet that he was receiving at the time of his death was three pints of skim-milk and three-quarters of a pound of bread.

"The next was James Brandish, a maniac. This man was admitted while in a fit, roaring out very lustily. This was his second time of admission into the hospital. When I saw him, he was shouting out on each occasion. The first time when Mr. Bossey saw him, he began to laugh at him, and told him, 'those fits would not do there.' Brandish had a fit after this, which appeared to deprive him of the power of opening his jaws. Bossey placed his thumb on his cheek, and pressed against his teeth; he then opened his mouth. Bossey began to laugh, and said, 'It's all gammon, Mr. Brandish; I will have you well flogged if you don't alter your course of conduct; I will have you sent to the Justitia, and well flogged.' After the doctor went away, I examined his mouth, and I

found that his cheek was cut opposite where he pressed it with his thumb. They frequently handcuffed his hands to each side of the bed, and kept him lying in this position in his dirt and water until a large piece mortified out of the bottom part of his back, about the same place as that of George Monk. He became completely childish. The doctor frequently threatened to have him flogged. He allowed him wine before he died, a part of which he took off a few days before his death, with his usual threat of having him flogged. He died October 6, 1844.

"The next was William Cooper; he was nurse in the hospital. I will here state how the office of nurse is fulfilled. On a man being admitted to the hospital, he is put on what is termed low diet, which consists of eight ounces of bread, two pints of tea, and one pint of mutton soup. This is diet for the day. The medicine which is prescribed for all diseases (!) when they enter, is a purging draught and a calomel pill. The patient is then confined to his bed for three or four days, perhaps, when Bossey pronounces him to be recovering. He then orders him to get up and make himself useful as a nurse in waiting on the other patients, and keeping watch at night. Those watches sit up all night, three of them taking it in turns, and dividing the watch into two hours and a half each. At this time, the poor man, perhaps, is not able to walk, which I have frequently seen the case, the nurse often worse than the patient whom he is attending. This Cooper was one of these nurses. When he arrived at the hulks, he was bad with a liver complaint, which was swollen to an enormous size: it projected two inches. I heard Bossey tell some young men, who, I believe, were his and his brother's apprentices, that there was a bag of matter lying in the pit of his stomach; and he then ordered him to lie down on a bed, and to strip his breast, when he commenced knocking and squeezing it—his sides and breast, but in particular that part where he said the bag of matter was. The next day, this poor man was unable to get up. He complained bitterly to me of the treatment that Bossey gave him, in bruising and pinching him in the way that he did, and he ever after complained of the pain that he endured from that pinching. He said he believed that Bossey

wanted to break that bag of matter which he had described to his apprentices. *He died shortly after.*

"Henry Heighton.—Treated for six months for consumption, and kept from the hospital to the last moment. *When on his death-bed, was ordered out to work, which he declared he was unable to do.* Mr. Bossey threatened him with punishment. *He got up, and in a few hours death eased him of his troubles.* In his last moments he declared he was 'a murdered man.' He entered the hospital on the 25th of May, and died the 9th of June, 1846,—15 days.

"Henry Driver (Milbank prisoner).—*Died through similar treatment; said to be a schemer, by Bossey.* Entered hospital the 21st of May, died the 26th of May, 1846,—four days. *This unhappy wretch had no sooner departed this life than the body, still warm, was carried over to the dead-house, and the knife at work, operating and dissecting; entrails taken from the body and thrown into the river, where dozens had gone before. When the dissection was over, the vacuum was filled up with flannel, and then sewn up, for the jury to sit on.*"

The terms in which these charges are made shew against "Bossey" a strong personal feeling, which is sufficient to create distrust of the whole of the statements in any unprejudiced mind; they also display that degree of ignorance which we might expect to find in the statement of a person who would rejoice in an opportunity of doing an injury to those placed in authority over him, and who, perhaps, had been compelled, in the discharge of their duty, to put him under severe discipline. We have no hesitation in saying, that a discharged nurse or a discontented patient might, by following the plan of the secret accuser in this instance, get up a very plausible charge of murder or manslaughter at any time against the surgeons of our metropolitan hospitals. A man with a broken leg, we are told, is allowed to lie in bed in his own putrid urine and filth until a *large piece fell out from*

the bottom of his back-bone. Let those surgeons who have henceforth to deal with intractable bed-sores in lunatic patients, where the case may be complicated with incontinence of urine or great difficulty in enforcing cleanliness, tremble for the result. A case of this kind admits of being worked up and circulated as a formidable charge of cruelty against them. We pass over the second case, in which a patient is stated to have told the secret accuser that he had had "a pain at his heart ever since Mr. Bossey's conversation with him," and alleged that Mr. Bossey had "broke his heart." There is nothing so easy as to misunderstand or misrepresent words spoken by others. The conversation of an individual may be without difficulty described as unfeeling, and, in reference to one who is dead, there is no power of contradiction. The allegation rests entirely upon the motives and feelings of the narrator; and, where the slightest tendency to unjust prejudice is perceptible, it should not be received. This is the way that hearsay evidence is dealt with in courts of justice; and we do not hesitate to say, that, by the adoption of any other principle, the reputation of no surgeon holding a public office is for an instant safe. In the third case, there is a charge of brutality in the treatment of a person who died *two years and a half ago.* This obviously depends entirely upon the mode in which the accuser chooses to regard and to describe the proceeding. The employment of cold affusion sometimes appears unfeeling to non-professional bystanders; and Mr. Bossey's accuser, by making the round of the hospitals, might find in this, and other modes of treatment, ample means for raising charges of cruelty and brutality against the medical officers of these establishments. As to the fourth case, our readers will agree with us that the story about the cheek

being cut by Mr. Bossey is most probably an absurd exaggeration. This charge refers to a man who has been dead nearly *two years and a half*; and the party who examined the cheek, and is so ready to depose to its having been cut, by Bossey, is the secret accuser himself! He is quite safe in making the assertion: the disinterment of the body would throw no light upon the question; and the result, among those who chose to entertain a charge so long reserved, would rest upon the amount of confidence and power of resisting a cross-examination possessed by the witness and accuser. Case 5 is one in which a person with a *liver projecting two inches* was compelled to act as nurse to other convicts (!): the gravamen of the charge here is, that the tumor (stated to be an abscess) was knocked, squeezed, bruised, and pinched about, so that the man complained continually of pain, and "died shortly after." Here is not only an imputation of cruelty, but of manslaughter at the least,—a charge easily made, and difficult to disprove; for, with an evil-minded person, the most simple surgical examination of an hepatic abscess might, after the patient was safely laid in the grave, be easily described as knocking and squeezing, or pinching and bruising, under circumstances of great barbarity and cruelty! According to Mr. Duncombe's own statement, however, this patient belonged to a class (*the convict nurses*) who deserved no pity; for in a subsequent part of his address, he states, that, with regard to the sick convicts,—

"It was not a medical man who pronounced life extinct. All was left to the judgment of the *convict nurses* who watched the dying, deprived of every ministerial comfort,—for the chaplain seldom or never visited the dying. These nurses watched with the eyes of a hawk; so that when they fancied a struggling breath was the last—fancied, he said, because pelf

would lead the wicked to nourish fancy—the body was drawn out of bed and laid on the floor, while the bed was ransacked for money or other articles. A shell was then procured, and the warm body was conveyed to the dead-house, where it lay for dissection."

Case 6 was that of a man who, while lying on his death-bed, was ordered by Mr. Bossey, under a threat of punishment, to get up and work! In a few hours afterwards he died. Case 7. This man it is said died from similar treatment: his body was dissected while it was still warm, and *his entrails* were taken from it and thrown into the river, *where dozens had gone before, &c.*

We shall offer no comment upon the two last cases, but leave our readers to judge how far it is credible upon the accusation of a man who is afraid to have his name made public, that such dreadful atrocities could be thus openly perpetrated, and only come to light months and even years afterwards. The viscera, nay, we might infer from the language, the bodies of *dozens* of dead convicts, have been thrown into a river constantly crowded with boats; but the horrible reality, in spite of fees to constables and coroners, is only first made known to the public, a long time afterwards, by a speech in Parliament! We do not mean to say that instances of cruel treatment, either of convicts or paupers, may not occur, but what we think the profession have a right to complain of is, that such very serious accusations should be made upon what appears to be such suspicious testimony. To put a medical man upon his defence against such charges as these, appears to us to be something like a mockery of justice; and in this point of view we think the Home minister did right to refuse a committee. It might be quite out of Mr. Bossey's power to disprove some of

them, extending as they do to convicts who died in the year 1844, especially as the accuser is also the *witness*:—for the charges are made upon what the patients told *him*—upon what *he* heard them say, and what *he* saw and felt, &c. &c. After this, what medical officer, holding any public appointment, is safe? An eloquent speech on the maltreatment of paupers or convicts is always sure to win a large amount of popularity.

We lately reported in this journal an operation for strangulated hernia performed by an eminent surgeon, where he was compelled, for the safety of the patient, to remove and cut away a large portion of the omentum. Had this operation been performed by Mr. Bossey on a convict-patient, his secret accuser might easily have represented that he saw the surgeon rip open the body of J. C., and cut out the greater part of his stomach, &c. There is not a single operation in surgery which a non-professional person, evilly disposed, may not, through ignorance or malice, so misrepresent as to excite public indignation against an individual who is really innocent. The injustice done to Mr. Bossey, we take leave to say it in all deference to the privileges of members of the House of Commons, has consisted rather in such a series of charges being brought forward publicly and anonymously, than in the refusal of the House to grant a committee to inquire into them. It is, we think, the best compliment to Mr. Bossey that the House would not entertain them. They were rejected as incredible. In the opinion of the profession, Mr. Bossey's reputation cannot suffer: and by the more rational portion of the public, accusations for which no authority is given, are justly treated with contempt. However plausible it may appear to argue that the announcement of the name of an accu-

ser may lead to a counter-charge or to some vindictive punishment, the reputation of a medical officer also requires to be considered. A serious injury has been done to Mr. Bossey, but his accuser, by having his name concealed, escapes all responsibility. Under the old Venetian Government, men were imprisoned or put to death upon charges secretly made against them: the names of their accusers were never made known to them. The *Bocca di Leone* sheltered all. The present case appears to be modelled after the Venetian practice; and if this mode of accusing medical officers through the Houses of Legislature is to be followed, there is not one who holds a public appointment, who can henceforth feel himself safe from having the most odious charges brought against him without any power of refuting them.

SINCE the above remarks were written, we find that the Home Minister has ordered a strict investigation to be made respecting the alleged maltreatment of convicts at Woolwich. This step was rendered necessary by the publicity given to the accusations: and we shall take care in due time to make known the result. It is not likely that the party who alleges that he witnessed these atrocities, but nevertheless kept some of them concealed for more than two years, can remain long unknown.

Reviews.

A Word to the Public. By the Author of "*Lucretia*," "*Rienzi*," &c. London: Saunders and Otley, Conduit Street. 1847.

IN presenting our readers with a brief analysis of the contents of a pamphlet bearing the above title, with which we have been favoured by the author, we

believe that we shall not in any degree transgress a rule which we have invariably adhered to in the selection of works for critical analysis—of restricting ourselves to those subjects which are of immediate importance or interest to the medical profession.

In a recent leading article* we thought it necessary to direct the attention of our medical brethren to the increase in the crime of assassination by poison in this country, as associated with the singular and pernicious inclination which has, of late years, sprang up among the novelists and mirror historians of France and England, to display this particular offence, in all its most prominent features, in a multitude of highly imaginative and ingenious works. In that and in a succeeding article† we endeavoured to prove the extremely suggestive character and peculiarly dangerous tendency of these works, especially at a period when instances of the atrocity in question are almost weekly brought to light, and when criminals are evidently beginning to employ a degree of art and caution in the perpetration of their designs, which, to say the least, affords evidence of great ingenuity and capacity for instruction in evil on the part of the guilty parties, and which, we are strongly inclined to fear, has, in many recent instances, been the result of the clear, though indirect, lessons which the literature of the day too amply affords to the weak and criminal. In one of the above articles, we thought it right to refer in the following terms to a romance which has recently excited considerable attention among the reading public:—

"The most eloquent novelist of the day has just given to the world a work of fiction, the entire plot, details, and moral (?) of which form a most complete revelation of the art of murder by poison—a work which almost appears to have been written for the express purpose of giving a dignity to the crime of assassination, and of reviving in the public mind an interest in the lost art of Italian poisoning."

The above expressions might have been, without material error, applied by our readers to a considerable number of popular romances which have appeared in this country and in France

during the last six months; but we find that they have been regarded by Sir Edward Bulwer Lytton as especially directed to his recent novel entitled "*Lucretia, or the Children of Night*." We fully admit the correctness of this application, and shall proceed to establish, by a few quotations from its pages, our opinion that the tendency of the above fiction is essentially bad, and that it is especially so at the present time; prefacing our extracts, however, by an expression of a full conviction that, in publishing this work, the author cannot, for one instant, be seriously charged with anything approaching to a positive design of instructing the criminal, or of extending the sway of guilt, but, reserving to ourselves the opinion, that he is deserving of censure for having recalled to the notice of men facts which should have been allowed to slumber in oblivion, and for having placed within the reach of the designing, ideas which readily admit of being converted to most pernicious uses.

We must strongly call the attention of our readers to the following passages from Sir Edward Lytton's novel: the author may object to their being published without the context, but we are confident that there is nothing stated in the remarks which precede or follow them which can remove from them one tittle of their dangerously *suggestive* character. The heroine (?) of the work is described as being discovered by her husband engaged in perusing a treatise on poisoning written in Italy during the sixteenth century. The following is the conversation which ensues between this extraordinary pair of criminals:—

"A strange selection for so fair a student! *Enfant*, play not with such weapons!"

"But is this all true?"

"True, though scarce a fragment of the truth. The physician was a sorry chemist, and a worse philosopher. He blundered in his analysis of the means; and, if I remember rightly, he whines like a priest at the motives; for see you not what was really the cause of this spreading pestilence? It was the Saturnalia of the Weak—a burst of mocking licence against the Strong; it was more—it was the innate force of the individual waging war against the many."

"I do not understand you."

"No! In that age, husbands were,

* Page 105.

† Page 191.

indeed, lords of the household: they married mere children for their lands; they neglected and betrayed them; they were inexorable if the wife committed the faults set before her example. Suddenly the wife found herself armed against her tyrant. His life was in her hands. So the weak had no mercy on the strong! But man, too, was then, even more than now, a lonely wrestler in a crowded arena. Brute force alone gave him distinction in courts; wealth alone brought him justice in the halls, or gave him safety in his home. Suddenly, the frail, puny man saw that he could reach the mortal part of his giant foe. The noiseless sling was in his hand—it smote Goliath from afar. Suddenly, the poor man, ground to the dust, spat upon by contempt, saw through the crowd of richer kinsmen, who shunned and bade him rot—saw those whose death made him heir to lordship, and gold, and palaces, and power, and esteem! As a worm through a wardrobe, that man ate through velvet and ermine, and gnawed out the hearts that beat in his way. No! A great intellect can comprehend these criminals, and account for the crime. It is a mighty thing to feel in one's self that one is an army—more than an army! What thousands and millions of men, with trumpet and banner, and under the sanction of glory, strive to do—*destroy a foe*,—that, with little more than an effort of the will—with a drop, a grain, for all his arsenal—one man can do!

"There was a horrible enthusiasm about this reasoning devil as he spoke thus: his crest rose, his breast expanded. The animation which a noble thought gives to generous hearts, kindled in the face of the apologist for the darkest and basest of human crimes. Lucretia shuddered: but her gloomy imagination was spelled; there was an interest mingled with her terror.

"Hush! you appal me," she said, at last, timidly. "But, happily, this fearful art exists no more to tempt and destroy?"

"As a mere philosophical discovery, it might be amusing to a chemist to learn exactly what were the compounds of those ancient poisons," said Dalibard, not directly answering the implied question. "Portions of the art are indeed lost, unless, as I suspect, there is much credulous exaggeration in the accounts transmitted to us. To kill by a flower, a pair of gloves, a soap ball, kill by means which elude all possible suspicion—is it credible? What say you? An amusing research, indeed, if one had leisure! But enough of this now; it grows late."

The following detached passages contain further revelations, which are only too ingenious:—

"The form was terribly wasted, and the hands now lightly crossed on each other, seemed nearly transparent. Out of the infernal variety of the materials at their command, the poisoners had selected a mixture which works by sustaining a perpetual fever; which gives little pain, little suffering, beyond that of lassitude and thirst; which wastes like consumption, and yet puzzles the physician by betraying few or none of its ordinary symptoms. Many of the subtlest discoveries of Dalibard were not known to his terrible inheritors,—more especially some most marvellous application of noxious gases to the art of death, which, inhaled only at night, and in sleep, kills rapidly (yet not too suddenly) the victim, and dispenses with all aid from drug and mineral—a secret, it is true, subject to one hindrance, viz., that it is only in the most intimate household confidence that it can be practised, and that, till within the last three or four inhalations, the continuance has only to be suspended for the sufferer still to hope recovery. Doubtless, it was some such preparation of the finer chemistry that Lucretia had braved, and escaped by her husband's death."

* * * * *

"And, hitherto, so gradually had the poison been administered—so well had it feigned the fluctuating progress of some natural malady—that suspicion could scarcely enter into the mind of the most suspicious professional attendant; all moral evidence would have repelled it. She, Helen Mainwaring, surrounded only by kindred and love—*she* marked out for revenge, seemingly without cause, the victim of schemes traceable to no object—who could harbour so monstrous an idea?"

"But now this patience was to be abandoned, the folds of the serpent were to coil in one fell clasp upon its prey. It became difficult, as Varney had observed, to give to a sudden death, for which no previous symptoms had prepared the way, the likeness of natural disease. Yet that difficulty had been foreseen;—in the chances of this desperate game the probable expediency of some stroke more prompt and abrupt than at first contemplated, had not been overlooked by calculators so cold-blooded and resolved. Of our mortal diseases, that which assails us, young and old, with the least forewarning, is terrible *angina pectoris*. Its causes are often unseen—its approach undivined by the leach who attends us daily. The simulation or artificial production of this disease was amongst those we have cited as the masterpieces of Dalibard's devilish art. And the ingredients from which to obtain it were now prepared. Even in case of surgical examination, the fatal seizure would seem accounted for by the appearance of the

heart's muscular substance, which the previous poisons had affected, paling its hues, and softening its fibres. And though that mortal malady is more common in middle age than youth—more common still in men than in females—still, instances enow of its occurrence in persons of nervous temperament, and affected easily by mental emotions (no matter what the age or sex), could be found in medical experience to authorize the verdict of 'Natural Death.'"

Can all these details be regarded merely as flights of innocent imagination—as vague fancies which it is altogether impossible that diabolical art should ever be capable of realizing? Are they not, on the contrary, lucid and substantial materials of instruction for the criminal, directly tending to enlarge his view of the subtlety and power of poisonous agents, and of the refined and baffling cautions which should be pursued for the purpose of accomplishing the extinction of human life, and of defeating justice. True it is, that the author, in almost every page of his narrative, expresses his detestation of the malefactor, and his abhorrence of the crime; yet why, we repeat, should the secrets of a long-forgotten art of assassination be thus revived, and laid open to the public eye? Can it be right that guilty and designing imaginations should be fed with such materials as these? Is it desirable that pure minds and high intellects should be sullied by an excitement which is only akin to that with which the populace of Rome rushed forward to gaze upon the body of the murdered Britannicus, when the rain had washed from its discoloured lineaments the dye with which his murderers had attempted to conceal the evidences of their guilt? The fathers of England will surely not consider such studies as these to be fitting subjects of contemplation for their innocent children; the political economists of a country can scarcely look upon them as the most practical or the safest means of checking the advance of crime.

In the pamphlet before us, the author has insisted strongly upon the purity of his intentions in the publication of "Lucretia;" the purity of those intentions has never been questioned by us, but we confidently deny that the writer's mode of executing his design has either rendered him morally irre-

sponsible for its errors, or has been calculated to render the integrity of his purpose by any means a sufficient counteraction of the pernicious character of his descriptions. Had Sir Edward Lytton been long known to the public as what he is not—a man whose opinions were worthless, whose principles were utterly bad, a common pander to the degraded taste of an immoral age, an individual destitute of any claims to public opinion, either as a writer or as a member of society—then any evil that might have been discoverable in his novel must have been regarded as comparatively innoxious; his authority would have carried with it no weight, his statements would have fallen upon the minds of his readers with no very telling force: but here we find the character and station of the author, and the professed moral of the work, both combining to render its bad features more conspicuous, and to confer upon its details more extended publicity. A man who has once gained the attention of his contemporaries as a popular writer, and especially as a writer who blends philosophy with fiction, incurs a fearful responsibility if, even by the mereat error in judgment, he fails to exercise his influence aright. Sir Edward Lytton can doubtless recal to mind the expression of the French poet and politician—"If you would enable me to regulate the opinions of a nation, give me the privilege of writing their national *chansons*." The idea was overstrained, but it was based on truth; and the influence of the popular novelist is by no means inferior to that of the popular bard. It is a painful, but a certain fact in the history of nations, that the most dangerous moral and political revolutions have ever been traceable to the influence of men of dignified and esteemed character. Where the arguments and the exertions of the sophist and the incendiary, of the open traitor and the violent recusant of all that is noble and sacred, have fallen harmlessly to the ground, the great and incurable evil has arisen to appal the world under the auspices of men whose otherwise unblemished reputations and high tone of sentiment gave an authority to their fallacious doctrines, and almost conferred an air of sanctity on their errors. The murders of Cæsar, of Charles Stuart,

records for the instruction of the good and the wise, facts and opinions which have a direct tendency to do mischief, if employed by the foolish and the depraved, draws upon himself a responsibility which is infinitely too dangerous to be incurred by any reasoning being.

One of the leading errors of the class of works to which Sir E. Lytton's "Lucretia" belongs, is — that they impart to the basest crimes a dignity; which never actually pertains to those atrocities. No assassin ever possessed a really strong and daring mind, nothing heroic belongs to the cowardly, remorseless, crafty, shrinking spirit of the murderer by poison; and yet with what interest have our writers recalled the facts that the inhuman Duke of Valentinois shone conspicuously among the cavaliers and warriors of his time; that the fiendish Countess of Somerset melted all hearts at her trial by the beauty of her face and the tenderness of her appeals; that Brinvilliers was a young and remarkably lovely woman; that the social traitor Donnellan was one of the most polished adventurers of his time, the admiration of Bath, Ranelagh, and the Pantheon. In this most objectionable style of recalling the more attractive points in the characters of known criminals, and of giving an undue breadth to the delineations of fictitious assassins, the following passages from "Lucretia" are indisputably written.

"Lucretia Dalibard rose; with a sudden movement she threw aside the coverings, and stood in her long night-gear on the floor. Yes, the helpless, paralysed cripple rose—was on her feet—tall, elastic, erect! It was as a resuscitation from the grave. Never was a change more startling than that the simple action effected—not in the form alone, but the whole character of the face. The solitary light streamed upward on a countenance, on every line of which spoke sinister power and strong resolve. If you had ever seen her before, in her false crippled state, prostrate and helpless, and could have seen her then—those eyes, if haggard still, now full of life and vigour—that frame, if spare, towering aloft in commanding stature, perfect in its proportions as a Grecian image of Nemesis — your amazement would have merged into terror, so preternatural did the transformation appear! —so did aspect and bearing contradict the very character of her sex; uniting the two elements, most formidable in man or in fiend—wickedness and power!"

Again, take Lucretia's apostrophe to the poisoned ring:—

"'Dumb token of Caesar Borgia!' she murmured—'him of the wisest head and the boldest hand that ever grasped at empire; whom Machiavel the Virtuous rightly praised as the model of accomplished ambition! Why should I falter in the paths which he trod with his royal step, only because my goal is not a throne? Every circle is as complete in itself, whether rounding a globe or a star. Why groan in the belief that the mind defiles itself by the darkness through which it glides on its object, or the mire through which it ascends to the hill? Murderer as he was, poisoner, and fratricide—did blood clog his intellect? or crime impoverish the luxury of his genius? Was his verse less melodious, or his love of art less intense, or his eloquence less persuasive, because he sought to remove every barrier, revenge every wrong, crush every foe?'"

Can it be considered that the following passage fully affords an antidote to the dangerous rhapsodies contained in the above quotations? Can it be considered that all persons (and especially that class of individuals who most indulge in romance reading), will always consent to receive a cool argument which follows close upon a brilliant and specious fallacy?—

"In the wondrous corruption to which her mind had descended, thus murmured Lucretia. Intellect had been so long made her sole god, that the very monster of history was lifted to her reverence by his ruthless intellect alone; lifted in that mood of feverish excitement, when conscience, often less silenced, lay crushed under the load of the deed to come, into an example and a guide."

These quotations will, we believe, prove that the writer of Lucretia has not been by any means successful in giving to crime that loathsome and degraded character which is, in reality, its inseparable accompaniment.

We consider that nearly the whole of the authors who have attempted to give popularity to the study of the most atrocious offences have almost wholly failed in their design of rendering the punishments inflicted upon their criminals the means of deterring others from the commission of similar crimes. It will, we fear, always be impossible to persuade men that temporal punishment is the necessary and inevitable reward of guilt. It certainly is true that punishment of an exem-

plary kind usually visits the guilty head; it cannot be denied that the Borgias suffered from the effects of poison which they had prepared for their victims: Frances Howard perished, in the bloom of her youth, of a disease infinitely more revolting than that which she inflicted upon the unfortunate Overbury. St.-Croix was destroyed by the fumes of his own poisons; the delicate limbs of Brinvilliers were submitted to infinite tortures, and then burned to ashes at the *Greve*, and scattered to the four winds of heaven: while the body of her base agent was crushed joint by joint on the wheel: and a host of other assassins have expiated their offences by public and ignominious deaths,—still, until it can be proved that, in this world, punishment follows crime in the direct relation of effect to cause, examples of this kind will have but very partial weight with the contrivers of wickedness. The examples of those criminals who have escaped unscathed, confidence in their own ingenuity, and the known inefficiency of the law, will, we fear, always have more influence with the evil-disposed than can be expected to result from any denunciations of mental agony, or of physical torture, where the culprits believe themselves to be unsusceptible of the one, and capable of avoiding the other.

In the above remarks, we have not considered the subjects of Sir Edward Bulwer Lytton's pamphlet by any means so fully as we could have wished; still, we think that we have sufficiently proved the injurious tendency of the class of writings among which the novel of "Lucretia" holds a prominent position: and that we have further directed the attention of the profession to the injury to human life which is calculated to ensue from the diffusion of information relative to the crime of poisoning among all classes of the community. In doing this, however, we cannot but feel and express regret that we have been compelled to leave our accustomed path, as medical reviewers, to contend in terms of strong reprobation against the doctrines which Sir Edward Lytton has so incautiously promulgated. We believe that we shall not be unsuccessful in appealing to his sense of right in this really important question, and in

requesting that he will expunge the dangerous passages which we have quoted from all future editions of his work. We trust, also, that other writers, who are at present devoting their talents to the illustration of similar subjects, will perceive, from our remarks, the extreme danger of publishing imaginative and highly-wrought descriptions of a crime which is assuredly the most prevailing and most rapidly increasing offence of the period.

Researches on the Physical History of Mankind. By J. C. PRICHARD, M.D. F.R.S. &c. Vol. V. 8vo. pp. 570, with illustrations. London: Sherwood and Co. 1847.

DR. PRICHARD has here brought to a conclusion those researches which have already deservedly gained for him a high reputation in the science of ethnography. The fifth volume, now before us, whether we regard the erudition of the writer, or the elaborate details into which he enters, is in no way inferior to those which have preceded it.

The volume commences with a philosophical disquisition on the languages of the Malayo Polynesian nations, including the inhabitants of Java, and the other islands of the Indian Archipelago. The author then treats successively of the inhabitants of Eastern Oceania,—the islands of the Pacific Ocean,—those of Madagascar and Australasia; and in the sixth book, he gives a very complete survey of the aboriginal tribes of the vast continent of America. The last chapter of the volume is devoted to a summary of the great questions which have been treated in the work, i. e. the origin of the human race from a single stock as proved by the absence of specific differences in the anatomical structure of the different tribes of men,—by the fact, that any varieties of physiological character are not original, but merely the effects of external agencies, and that the same inward conscious nature and the same mental faculties are common to all the races of men.

The latter portions of the work are occupied with the history of particular races. The mode in which Dr. Prichard traces their migrations over the globe by an analysis of their languages, is, if not conclusive as an argument for unity of

species, a most satisfactory explanation of their diffusion from a common centre. It is, however, unnecessary for us to enter into any further critical notice of a treatise, the greater portion of which has been for some time in the hands of the profession. As a work of reference and authority in its own department, we know of none that can compete with it.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

January 27th, 1847.

Mr. LISTON in the Chair.

Observations on a Case of Spontaneous Gangrene of the Lower Extremities, arising from the formation of Coagula in the lower part of the Abdominal Aorta, in the arteries given off below the superior Mesenteric, and in the Arteries of the affected limbs. By HENRY WILLIAM FULLER, M.B. L.M. Cantab., Medical Registrar at St. George's Hospital.

THE author related the particulars of a case of spontaneous gangrene, which fell under his observation at St. George's Hospital about the middle of last year. The patient, a thin, but tolerably healthy woman, 37 years of age, was suddenly seized, on the 8th of June, with most acute pain in the right foot, which shortly afterwards extended up the leg. She was immediately subjected to medical treatment, but without relief; and when admitted into the hospital three days afterwards, her right leg was so exquisitely tender, that the slightest touch caused intolerable pain. Her extremities, however, were neither discoloured nor oedematous. With the exception of albuminous urine, there was no evidence of constitutional disturbance, or of any real mischief at the seat of pain. Various means were adopted to relieve the pain and obtain rest, but without effect, her sufferings being most acute. On the 18th inst., ten days after the commencement of her illness, the superficial veins on the right foot and ankle became rather more distinctly marked than usual, and the foot perhaps rather cooler than the corresponding extremity; and on the 22d the coldness became so manifest, and the foot at the same time so decidedly mottled in appearance, that there could no longer be any doubt on the matter. The gangrene which had thus commenced continued to spread till it had involved the whole of the right extremity. On the 30th, the left foot

began to mortify, and ultimately the left leg and part of the corresponding thigh. The affected limbs presented excellent examples of gangrene sicca. For the first five or six days, the parts affected became gradually darker and darker, until they assumed a perfectly black appearance; this blackness was then replaced by a brilliant scarlet colour, which in its turn yielded, shortly before death, to an inky-black hue. The parts throughout remained icy cold. The treatment consisted of the exhibition of iodide of potassium, opium, and stimulants, internally, while the limbs were wrapped up in carded wool; but everything failed to afford relief, and she sunk on the 15th of July.

The following is the result of the post-mortem examination:—Every organ in the body was perfectly healthy, with the exception of the kidneys, which presented a well-marked specimen of granular degeneration. The heart and large vessels were most minutely examined, and neither in the heart itself, nor in the aorta, nor in the vessels of the affected limbs, was there the slightest trace of inflammatory action, or of osseous or atheromatous deposit. Indeed, the blood-vessels, both arteries and veins, presented a remarkable healthy appearance. But the lower part of the abdominal aorta, the arteries given off below the superior mesenteric, and the arteries of the affected limbs, together with their corresponding veins, were completely blocked up by firm fibrinous coagula, which were in great measure discoloured, and slightly adherent to the internal coat of these vessels. Some of these coagula, on being cut into, were found soft and cream-like in their centre. In the right auricle and left ventricle of the heart, in addition to the ordinary coagula commonly met with after death, were two coagula, precisely similar to those above described.

The author observes, that from first to last this case presented the ordinary features of senile gangrene; yet none of the usually alleged causes of that disease were present. The heart and blood-vessels were perfectly healthy; she had lived regularly, was in the prime of life, in comfortable circumstances, and in tolerably good health; and as during life there had been no symptom of arteritis, so after death was there no evidence of such inflammatory action.

Having thus shown how unavailing are the commonly alleged causes to explain the formation of coagula in cases like the one under consideration, he proceeded to explain his own views as to the cause of obliteration of the blood-vessels. Admitting that it might sometimes result from arteritis, and sometimes from excessive osseous deposit, and consequent interruption to the arterial

circulation, he stated it as his belief, that coagulation is not unfrequently due to a peculiar condition of the blood itself. He illustrated this point by reference to facts which have lately been brought under the notice of the profession, and expressed his conviction that the partial ossification of the vessels occasionally met with accompanying mortification, should in most cases be regarded as a simple coincidence, and by no means as the cause of the formation of coagula.

The author next remarked on the medical and surgical treatment of such cases, and entered particularly into the question as to the propriety of amputating during the spreading of spontaneous gangrene, pointing out the circumstances which have probably led to the difference of opinion expressed on the subject. He then concluded by drawing attention to the curious variations in colour exhibited by the parts in process of mortification—a circumstance which he did not remember to have seen mentioned in any works on the subject.

Dr. SNOW was of opinion that the disease of the kidneys was the cause of all the other mischief. In granular disease of the kidney, urea, not being excreted in sufficient quantity, was detained in the blood, which was so vitiated by it that it passed in difficulty through the capillaries, as was proved by the circumstance that patients with this disease were liable to hypertrophy of the left ventricle, without alteration of the valves to account for it. Now he believed this obstruction to the circulation through the capillaries might proceed so far as to detain the blood till it should coagulate in the vessels, more especially as the presence of urea in the blood caused, in many cases, an increased tendency to its coagulation. In the renal affection which followed scarlet fever, the patients sometimes died from coagulation of the blood in the cavities of the heart, as he had seen; the increased quantity of fibrine in the blood, in many of these cases, was apparent in the tendency to pericarditis, pleurisy, &c., which existed.

Dr. FULLER had not heard before that urea had a tendency to produce coagulation of the blood. Generally, indeed, the blood was thin and liquid in albuminuria. The albuminuria in the case detailed to the Society was, he believed, a mere accidental circumstance, for he had seen precisely similar cases in which there was no symptom whatever of kidney disease. In senile gangrene, generally, the kidney was unaffected, and if affected, it was merely accidental, and had no relation to cause and effect.

Dr. SNOW replied, that he was aware that the blood was often thin and watery in disease of the kidney; this arose from the

aqueous part of the urine, as well as its other constituents, being detained in the blood; but there were undoubtedly many cases of just the opposite kind.

Dr. BURROWS inquired the condition of the uterine functions in Dr. Fuller's case; and having received for answer, that they had not been particularly alluded to, but were probably healthy, proceeded to say that the case in many respects bore a remarkable analogy to a class of cases familiar to practitioners, and occurring in unmarried females who entered our hospitals suffering from amenorrhoea accompanied by anæmia. In these cases there was a kind of phlegmasia dolens resulting from spontaneous coagulation of the blood in the extremities; the disease first affecting one leg, and then changing to the other, in the manner phlegmasia dolens was accustomed to do. This disease, under proper local and general treatment, usually got well. Now, if there had been any irregularity of the uterine functions in Dr. Fuller's case, the analogy between that and those referred to would be still more striking. Dr. BRIGHT, in Guy's Hospital Reports, had recorded a series of cases of extensive coagulation of blood from debility; in many of these the spleen was found to be congested, but, like the affection of the kidney in Dr. Fuller's case, this was only an accidental circumstance. The author of the paper before the Society had thrown out a question respecting the use of the preparations of steel in these cases. He (Dr. Burrows) had usually found these medicines of the greatest service; they were not contra-indicated by any evidences of inflammation. In fatal cases, the knife did not reveal any signs of such a state having existed. He agreed with the author respecting the cause of the affection, but he had never seen any instance of coagulation to the same extent as in the case under discussion.

Mr. H. LEE said, that if the view taken by Dr. Fuller of this disease was correct—if it arose from spontaneous coagulation of the blood, the affection could not be attributed to any one organ or set of organs, but must be looked upon as a result which might be produced by any cause which would tend to deprive the blood of its vitality. There were some experiments of M. CRUVEILHIER, which he thought tended to throw some light upon this point. M. Cruveilhier found, that by injecting ink into the femoral vein of a dog, he produced patches of congestion in different parts of the limb. He also found, that by introducing mercury into the cancellous structure of a living bone, similar livid patches of congestion were produced in other organs, especially in the lungs; and in cases of secondary abscesses, the livid circumscribed patches of conges-

tion, we well know, as the commencement of the secondary abscesses, must be attributed to the effect produced upon the blood by the absorption of pus, or of some other diseased secretion, in the circulating system. If, then, in these cases, the properties of the blood were so altered as to produce patches of congestion in internal parts, might not the similar effects be expected in other cases with regard to the skin? Mr. Lee agreed with Dr. Fuller in his explanation of the pathology of this disease, but thought that the congestion and coagulation of the blood commenced in the capillaries, and not in the large vessels of the limb.

Wound of the External Carotid Artery, treated successfully by Ligature of the common Carotid. By F. LE GROS CLARK, Assistant-Surgeon to St. Thomas's Hospital.

Benjamin W——, a policeman, aged 29, of bad constitution, was brought to St. Thomas's Hospital on October 14th, at a quarter before 2 o'clock. A quarter of an hour previously, his wife hurled a sharp-pointed table-knife at him. It entered his neck on the left side, just below the angle of the jaw, making a clean wound about an inch in length. He staunched the blood, and ran to a surgeon close at hand, who placed a compress in the wound, and immediately brought him to the hospital. An ineffectual attempt having been made by Mr. Solly to secure the bleeding vessels by dilating the wound, and as arterial blood continued to be poured out in profusion, it was determined, on the author's arrival, that the common carotid should be at once secured. He accordingly performed the operation, whilst Mr. Solly retained his command of the bleeding vessels by his fingers in the wound. Not a tea-spoonful of blood was lost during the operation, and, when the pressure was removed from the upper wound, not a drop of blood escaped. The lower wound was closed, and a compress placed on the upper, consisting of a piece of sponge wrapped in gauze. On the following day (15th), the compress was removed from the upper wound, and no bleeding followed. He complained of difficulty in swallowing.

16th.—Had a quiet night; no head symptom, nor loss of temperature or sensibility on the left side of the head; branches of the external carotid, on the same side, pulseless; great difficulty of deglutition, and accumulation of mucus in the air-tubes; throat much inflamed.

From this time he continued to improve, and no ill consequence followed the repeated and forced expiratory efforts which were essential to clear the air passages and fauces from the accumulated viscid mucus. On

the 29th, the ligature separated from the artery without the employment of any force, and on the 31st he left the hospital well.

The author remarks thus:—"The interest of the foregoing case is principally of a negative kind, consisting in the entire absence of any untoward symptom associated with or arising from the operation. It would seem, therefore, to confirm the opinion that in similar penetrating wounds in this situation, followed by arterial hæmorrhage threatening life, it is better at once to place a ligature on the common carotid, than to waste time in searching for the bleeding vessels. The bronchitis was a serious complication after the operation. The absence of cerebral symptoms illustrates a remark of Dr. Burrows's, in his recent work on 'Disorders of the Cerebral Circulation,' that such rarely occur where much blood has been previously lost. In the present instance, the external carotid could not have been tied without extending the original wound, and being most likely obliged (supposing the internal carotid to be intact) to apply the ligature close to the point of bifurcation of the common trunk."

Mr. BRANSBY COOPER believed that the best practice, in cases similar to the one related, was at once to cut down upon the common carotid artery, and secure it. Time was lost, and great risk incurred from hæmorrhage from looking about for the ends of the divided vessels.

Mr. SOLLY remarked that it would be desirable to ascertain the opinion of surgeons respecting the advisability of securing the common carotid in cases of wounds similar to the present. Generally speaking, in wounds of the external carotid, he thought it was better to find the divided ends of the vessel, and tie them. But in this case he dared not remove his fingers from the wound for fear of the hæmorrhage proving fatal. While still keeping up pressure in this manner, Mr. Clark came in, and secured the vessel below in a very dexterous manner. If Mr. Clark had come in before, he (Mr. Solly) thought that he could have so commanded the hæmorrhage by pressure on the vessel, as to have enabled him (Mr. Solly) to have searched for, and secured, the ends of the divided artery.

Mr. B. COOPER meant his observations to apply only to cases precisely similar to the one under discussion. If only the branches of the external carotid were wounded, it might be better to secure the ends of the divided vessels; but here the wound was of the external carotid itself, and therefore it was necessary to secure the common vessel.

Mr. SOLLY referred to the great loss of blood in the case related as the cause of the very little head excitement which followed the employment of the ligature. With regard to the

mode of treatment pursued in this case, it must be recollected that there was some question as to which vessel were really wounded. The man had been brought to the hospital all the way from Gracechurch Street, and the wound had ceased to bleed, the hæmorrhage returning after his admission into the institution. Mr. Solly referred to a case admitted, some years since, under the care of Mr. Travers, of a man who, whilst incarcerated in a watch-house, stabbed himself with a penknife just under the lower jaw. For this wound Mr. Travers tied the common carotid. A few days afterwards, suppuration took place in the wound made in the operation, bleeding came on, and the man sunk.

Mr. LE GROS CLARK had guarded himself in his remarks on this case by saying that he should pursue the same treatment in cases of a precisely similar character. In this case it was probable that the external carotid was wounded, or, at least, some of its branches, and perhaps the internal carotid also. Under these circumstances, it was best to secure the common carotid. He thought, however, that even when the wound was confined to one or two branches of the external carotid, and hæmorrhage occurred to a great extent, a ligature of the common vessel might be required as urgently as though the external carotid itself had been divided.

Some Instances of the Contrast between Delirium Tremens and Inflammation of the Brain as regards the quantity of Phosphoric Acid excreted by the Kidneys. By H. BENCE JONES, M.D. F.R.S. Physician to St. George's Hospital.

Phosphoric acid is excreted combined with the earths and with alkalis. From one-fourth to one-eighteenth of the phosphates in the urine are found to be earthy, and from three-fourths to seventeen-eightieths alkaline phosphates. Hence, the sum of the alkaline and earthy phosphates must be determined by analysis. The following cases of delirium tremens present the lowest limit to the amount of phosphates, in an extended inquiry, published in the *Philosophical Transactions* for 1845 and 1846. In the lowest instance, the total phosphates equalled only .06 per 1000; urine, specific gravity 1017.9; whilst, in the cases of inflammation of the brain, the highest limit found for the total phosphates equalled 13.38 per 1000; urine, specific gravity 1031.1—that is, 223 times less

in the former case than in the latter disease. In the three cases which are here related of inflammation of the brain, the average quantity of phosphates is 8.26 per 1000; urine, specific gravity 1025.3. During the acute stage of the three cases of delirium tremens, the average quantity of phosphates is only .67 per 1000; urine, specific gravity 1020.4. Hence, then, sometimes at least, an analysis might determine whether delirium tremens or inflammation of the brain was present. But it is not every case of delirium tremens which exhibits this diminution, and it is not every case of inflammation of the brain which shows an increase of the phosphates. For if food can be taken in delirium tremens, the food furnishes phosphates which hinder the diminution from being apparent; and if the inflammation of the brain be slight, the limits of variation in the healthy state rise so high, that the slight increase, if present, cannot necessarily be considered as the result of inflammation: so that the chemical analyses can only be regarded as an assistance to the diagnosis, and not as alone sufficient to determine in all cases what the disease may be.

The first case of delirium tremens was that of a young woman, aged thirty-two. On the sixth day of the acute attack, the total phosphatic salts=1.07 per 1000; urine, specific gravity 1028.7. She recovered.

The second case of the same disease was that of a man, aged thirty-five. On the fourth day of disease, the total phosphatic salts=2.40 per 1000; urine, specific gravity 1019.1. On the fifth day, the total phosphatic salts=.15. A second experiment gave .12 per 1000; urine, specific gravity 1019.3. On the sixth day, the total phosphatic salts=.06 per 1000; urine, specific gravity 1017.9. In the evening of the same day, the total phosphates=.24 per 1000; urine, specific gravity 1019.7. The seventh night, the patient died.

The third case of delirium tremens,—that of a man aged thirty-five,—on the fifth day of the disease, gave total phosphates=.10; and in second experiment with the same urine, .09 per 1000; urine, specific gravity 1018.0. The sixth day, he took his food, and the total phosphates = 6.10 per 1000; urine, specific gravity 1022.5. He rapidly improved, and left the hospital well.

The first case of inflammation of the brain was that of a young man, aged twenty-eight. On the

16th day, total phosphates=	6.83	per 1000; urine, sp. gr. =	1025.3
17th ditto	=9.79	ditto	=1028.1
19th ditto	=8.43	ditto	=1024.8
20th ditto	=5.77	ditto	=1021.2

21st, morn. ditto	=4,25	ditto	=1016,9
21st, night, ditto	=7,08	ditto	=1024,6

22d day of disease, he died.

There was lymph in the sub-arachnoid cellular tissue at the base of the brain. The ventricles were distended with fluid; the septum broken and flocculent; the fornix

and corpus callosum not softer than natural. The second case of inflammation of the brain was that of a man, aged thirty-six, with much more acute symptoms than in the previous case.

12th day, total phosphates	=13,15 per 1000	urine, sp. gr.	=1029,7
14th ditto	=12,11	ditto	=1033,0
16th ditto	=9,53	ditto	=1030,0

18th day of disease, he died.

The ventricles of the brain were much distended; the walls of both lateral ventricles much softened; fornix and septum lacerated; softening of the lower

part of anterior lobes on both sides; arachnoid membrane at the base opaque.

The third case was that of a man, aged thirty-six, with acute symptoms supervening on chronic disease.

21st day of severe symptoms, total phosphates	=13,38 per 1000	urine sp. gr.	=1031,1
23d, much relieved, ditto	=6,03	ditto	=1022,9
30th, improving rapidly, ditto	=2,79	ditto	=1016,3

Five weeks after this he left the house in his ordinary state of health.

Such, then, is the contrast which delirium tremens and inflammation of the brain sometimes exhibit, as regards the amount of phosphates excreted.

The excretion of the excess of phosphates in these last cases may be considered as resulting from inflammatory action going on in the brain, whilst the diminution of the phosphates in delirium tremens is probably caused by the positive hindrance of that process of formation of phosphoric acid, which, in the healthy state, is continually taking place in the body.

The excess of action, or the want of action, of the so-called vital gas, may, possibly, ultimately be proved by the balance, not only to be traceable by its effect on the nervous tissue, but other tissues may give a corresponding result.

Dr. MAYO inquired, whether it had been ascertained, in the cases detailed, if the quantity of phosphoric acid found in the urine had been influenced by the quantity of opium given.

Dr. BENCK JONES replied, that we knew that opium had a tendency to diminish the quantity of urine secreted; but he was not aware that it diminished the quantity of the salts found in that fluid. It would seem, indeed, from the third case, in which no opium was given, that it was not an agent in hindering the quantity of phosphoric acid.

Dr. F. CHAMBERS inquired if there were any easy and short mode of detecting the quantity of phosphoric acid in the urine.

Dr. BENCK JONES was unacquainted with any easier mode than that by the balance.

SOUTH LONDON MEDICAL SOCIETY.

January 31st, 1847.

CHARLES WATKINSON, Esq. President in the Chair.

Dr. HUGHES read a case of empyema occurring in the right side of the chest, for which paracentesis thoracis was performed fifteen times: the full particulars of the case will be found at page 226.

Dr. HUGHES remarked, that it was first supposed to be a case of phthisis, the indications of the left side being those of a tubercular character, namely, consolidation and breaking down of the lung, but, as mentioned in the case, the part regained its functions, and the evidences of consolidation vanished. In reference to the patient's marriage, it had been said he would be the father of unhealthy children, but he, Dr. H., had given his opinion that if of a tubercular constitution he could never have gone through so much disease.

Mr. HICKS inquired if Dr. Hughes would recommend the performance of the operation as soon as the existence of fluid was discoverable? and alluded to a case which came under his notice in the country, where one opening was formed externally, and a communication also existed through the lung. Had Dr. Hughes found much benefit from the use of mercury in such cases? as in the present instance the patient appeared worse after the mercurial course. In reply, Dr. Hughes said the mercury had been used doubtfully, and the patient did not suffer more than if under an ordinary salivation. He believed the serous membrane had acquired a habit of secreting, and would not adhere so as to afford a chance of cure. As long as there was any chance of procuring absorption of the fluid by medicines or external applications he

would defer the operation; but if any signs of tubercular or scrofulous disease existed, the operation could not be performed too soon; the physical signs over the left mamma he believed depended on a local pneumonia terminating in abscess.

Mr. ROBINSON observed that the value both of medical and surgical skill were alike evident in this case; he thought the stage of active pleurisy had passed unobserved, the symptoms not being well marked, as empyema was rare if pleurisy was early detected. From the frequency of the operations he should think the disease was in a chronic state, and not prone to the renewal of irritation. It instanced the difficulty of diagnosing phthisis.

Dr. HUGHES stated that, after the operation was performed, resonance returned over the entire sternum, and also as low down as the nipple; the fluid continued serous as long as the entrance of air was prevented, but after its admission, and more especially after the attack of pneumonia, the fluid became more and more purulent. In reference to the capability of the lung to readmit air, he believed that the lung might be found after death a small dense black mass, and incapable of floating, yet by inflation the organizable deposit on its surface would crack, so that the entire lung would become distended with air; and that such was the nature of the present case he inferred from the disease having existed six or eight months. From the gurgling of air noticed on the patient's assuming the erect posture, he thought the pleura was divided into two cavities.

In explanation of the heart being first displaced to the left side, and afterwards to the right, Mr. Robinson considered that the large quantity of fluid on the right side first forced the heart to the left, and after the fluid was got rid of, and the size of the chest decreased, contraction of the right side drew the heart to the same side.

Mr. COCK considered that the operation was simple, and devoid of all danger; the present plan of using the exploring needle in the first instance afforded a more sure means of diagnosis in doubtful cases. The size of the trochar should be according to the character of the fluid, and with moderate care, employing the finger as a stop-cock, there was no difficulty in preventing the admission of air.

The Society then adjourned. At the next meeting Mr. Collambell will relate a "Case of exhaustion from overlactation, ending in effusion into the ventricles."

RULE FOR BEGINNING PRACTICE.

In general never think of yourself, but of the patient.—*Hufeland.*

MEDICAL SOCIETY OF LONDON.

Monday, Jan. 25, 1847.

MR. DENDY, PRESIDENT.

Cancer.

MR. DENDY related the case of a single lady, 35 years of age, who, four years since, came to London for advice respecting a genuine scirrhus of the breast, of which she was the subject. Her mother had died a short time before of the same affection. In the present instance, the tumor exhibited all the marks of that frightful malady. It was lobulated, dark, and shining, with purple lumps about it; the nipple was retracted, and there were sharp lancinating pains in it. Pressure, on the plan of Dr. Arnott, was employed, but without benefit. She now came for the purpose of determining on the propriety of an operation. It was determined, in consultation with Mr. Travers and others, that an operation should be resorted to. It was accordingly performed: union took place by the first intention, and in three weeks the wound was quite healed. The countenance, previously pale and cadaverous, had become healthy, and some glands previously enlarged in the axilla, had disappeared. She remains well. The tumor was examined after its removal, and exhibited all the characteristics of cancer. He narrated the case to show that, in some instances, at least, of malignant disease, the knife was the best remedy; for in this case it was evident that life would soon have been worn away, as, in addition to the symptoms enumerated above, the patient was rapidly emaciating, had sleepless nights, and an increasing fever.

Mr. BISHOP agreed in opinion with Sir A. Cooper, Mr. Liston, and other eminent surgeons, who declined to operate in any case in which malignant disease was discovered to exist.

Mr. PILCHER could not agree in this opinion entirely. In cases of unquestionable malignant disease, it might be right not to operate; but in cases of a questionable character, it was desirable to give the patient an opportunity of being relieved by operation. The case related to-night proved that the operation had been a boon of the greatest value; it had prolonged life, and made that life one of comfort. He referred to cases of tumors of the breast in women and young girls, resulting from pressure of the stay-bones, and which, if allowed to go on, he believed would become malignant. He threw out this question—Does the primary disease, being local, at last degenerate into malignant disease, and thus implicate the constitution; or is the constitution the first affected, and the local disease a consequence thereof? He thought the former the correct

view of the subject. He then referred to cases of "local cancer," in which all the signs and symptoms of the disease were exhibited, but the constitution of the patient did not suffer.

Mr. A. FISHER related a case of scirrhus, situated an inch below the mamma, and making its first appearance at the age of seventy-two. It was of the size of an ordinary marble, and exhibited all the signs and symptoms of scirrhus. It was removed, and, under the microscope, gave evidence of its malignant character.

Mr. BISHOP had lately conversed with a surgeon who had operated on twenty-two cases of scirrhus. In nineteen the disease returned and destroyed the patient. He had determined never again to operate.

Mr. ROBERTS, to show the difficulty of diagnosis in these cases, referred to an instance of a lady, forty-five years of age, who had a small nodulated tumor, as large as a marble, in the mamma. It gave her no uneasiness; she discovered it by chance. One eminent surgeon advised its removal; another recommended its being left alone; for, if malignant, an operation would do no good, and if not, an operation was not required.

Mr. LINNECAR referred to some cases, lately reported in the *Lancet*, from St. Bartholomew's Hospital, in which small tumors, supposed to be malignant, had been removed, but returned and destroyed the patient. He knew that Mr. Lawrence believed that operations were of little service where scirrhus tumor had attained any size, but if small he removed them. Mr. Linnekar related a case of scirrhus, of large size, which had been under his care for some years, and appeared to be getting somewhat smaller, under the application of a plaster of mercury and ammoniacum. There was little or no pain in it.

Dr. BENNETT referred to the influence of mental anxiety and distress on the production of scirrhus. He had noticed the prevalence of this disease in persons whose tone of mind was that of depression, and thought such a cause, by interfering with nutrition, had a great influence in the production of the disease.

Mr. PILCHER referred to some cases in which the long-continued use of tincture of iodine, internally, had produced irritative fever, from which the patients sunk.

Monday, Feb. 1, 1847.

Paralysis from Lead—Remarkable Cure.

The following case, occurring in the practice of Dr. Chowne, was read by the secretary:—

A man, by trade a tailor, about 32 years of age, of small stature, and slight make altogether, was in his usual good health when he began to work and to sleep in a

newly-painted small room. He slept in the room four nights, but continued to work in it until the end of a week, at which time he was seized with colic, violent retching, and a very confined state of the bowels. He applied to a medical man (since dead), who gave him calomel and other purgatives. The constipation continued thirteen days, during which he had great pain (colic pain) and swelling of the abdomen. Enemata were given, and he had other medicines to relieve the bowels. When they were relieved at the end of the thirteen days, both the pain and the swelling of the abdomen left; but he remained still very ill with debility, and now and then a return of colic. Aperient medicines were still required. He continued in this state about ten weeks, constantly requiring purgatives, and having occasional attacks of colic. He went into a hospital Sept. 6th, 1842, and was told by the physician under whose care he was admitted, that he had painters' colic. At that time he had not any paralysis. Had "sulphur brimstone," milk, and occasionally house medicine; afterwards quinine. When he had been in the hospital about a week, he began to feel tremor and weakness in his hands; was in the hospital three weeks; the tremulousness increased: it was confined to the hands and wrists. The hands at that time did not drop: it was spoken of by his physician as nervous weakness. His health appeared to improve in the hospital. After he left, his hands gradually grew worse for about six weeks, and then he had the "drop wrist." His doctor noticed while he was in the hospital that his gums were blue.

He was admitted under my care into Charing-cross Hospital, Nov. 12, 1842. The hands quite dropped; the ligaments were very lax; his general health was very bad, and he had great general weakness; the gums had a blue margin, very well defined. The plan he was put under was essentially the same as he had been under before, and by which his general health had been slowly improving. He had rubefacients to rub on the hands. He left Charing-cross Hospital to go to the country; but, although his health had improved, his hands were worse. This was his state five months after his first attack of colic.

About a week after, he was at Stratford, and on arriving in town in the evening, being behind his time, on leaving the coach, he walked very fast (that is to say, as fast as he could), from Aldersgate Street to his residence, about two miles; when he arrived, he was in a strong perspiration, and, to guard against catching cold, went to bed, but slept very badly; continued in a perspiration, but still felt "burning hot," and was alarmed lest he was going to have a fever. He had not any ache or pain any-

where, only the burning sensation; the next day he found, to his surprise, that he could raise his hands and support them at the wrist, which he had not been able to do before from the time of their first dropping. The preceding day (that on which he was at Stratford), his hands were so weak that he could not hold anything in them without visible trembling, but the day after his brisk walk, strong perspiration, and night of feverishness, he could hold his hands quite steady, and as well as he could before he was afflicted. He considered it quite sudden, as it "seemed to him that he could even work; he tried it, and succeeded quite well." Since that time he has pursued his business as usual.

While in the country, he was not at first under medical treatment. Ultimately he was galvanized six times. The operation produced perpetual tingling in the hands and arms; a wire was placed at the back of the neck, and he held the balls in his hands. He thinks that although he was not conscious of benefit at the time, the galvanism did him good; he says he often feels the sensation now as that produced by the galvanism, "not so strong a sensation, but exactly like it."

He left the country with his health much improved, and his hands not quite so feeble. He was then advised to use a solution of rock-salt in water, and to plunge his hands into it as hot as he could bear it, at least half a dozen times a day for four or five weeks. He found them acquire still more strength under this treatment; he kept on bathing them in the same way up to November 1843, but still they were so weak that he could not make any use of them, the wrists still dropping.

On the 14th of November, 1843, he attempted to use a measure tape (the measure of his trade), to take measure of a gentleman, but his hands were "too feeble."

From the day of his first attack to his return from Stratford was about seventeen months. He continues using the salt-and-water; he thinks the warmth good for him, and that he can work better in a warm than in a cold room.

He cannot account for lead getting into his system in any other way than by the paint of the room he slept and worked in. The house he lived in had not leaden cisterns, but wooden ones, casks. His bowels are more apt to be confined than they were before the attack.

At present he has not blue gum, but I have not any means of knowing for certain when that left.

In the discussion which ensued on this case, and in which various members took part, the often debated subject of lead paralysis formed the main point.

Correspondence.

CHIROPDAL JURISPRUDENCE — ACQUITTAL OF DR. WOLFF, THE CORN-MANUFACTURER.

SIR—Having read in your valuable publication (No. 995, December 25th, 1846, page 107,) the observations of a correspondent, headed, "Tricks of the Chiropodists—Manufacture of Corns," I now take an opportunity of stating the result of the trial of the chiropodist, and forward to you for the information of my professional brethren a particular detail of the artist's mode of operation, and the result of it in the discovery of a nursery of corns, where the most eminent men in our profession appear to have thought that they were never grown.

Joseph Wolff, tried at the sessions for the county of Suffolk, held at Beccles, on the 4th inst., on a charge of having in the borough of Southwold, in that county, on the 1st of December last, obtained from a gentleman, resident in that town, the sum of £1 by false pretences, represented in the calendar of prisoners as 35 years of age, a labourer of Norwich, but who, by his hand-bills, had represented himself as Dr. J. Wolff, Chiropodist, patronised by a crowned head, and every grade of nobility and gentry, from the throne downwards, was acquitted by the jury on the ground, as it would appear, of insufficient evidence, arising perhaps out of the loss of materials pretended to have been extracted as corns, and the difficulty of showing that the whole sum charged was a fraud: as what is usually called a corn had really been operated upon, and the patient had felt ease from it.

The theory of the chiropodist, as frequently stated, is, that corns are generated in considerable numbers in, and spring from, the bone, immediately under what has never before been doubted to be a corn; and in order to the extraction of which in the cases alluded to, and at which I was present, the following was the mode of operation:—Seating himself with his face towards the light, and taking care to object against any person placing himself in a situation distinctly to see the whole operation, the operator threw a handkerchief over his knee upon which the foot of the patient was laid. The visible corn was then pressed somewhat unceremoniously, to give, it is presumed, the patient a sufficient idea of the pain occasioned by such things, and the value of the service rendered by the removal of them. The chiropodist then proceeded to pare the uppermost layer of the thickened cuticle of every corn upon the same foot, using a number of variously shaped scalpels. He then proceeded to loosen by means of a set

of instruments, like gum-lancets, of different shapes, and some of them much rounded, the entire natural corns; turned them up, and on one side: then cut off the more callous part of each, leaving the under layer of the cuticle, of which he continued to form a sort of flap, which he subsequently made use of. With crooked scissors, of various sizes, having clipped away all uneven surfaces from the different corns under operation, then with suitable solemnity the operator took from a round box a bottle of mysterious oil, somewhat resembling blood, which he represented as having the power to raise the corns. This oil was with abundant care rubbed over each toe operated upon, and into each excavation made in it, until it foamed: and at this, perhaps, *critical* period of the operation, the operator *invariably* resorted to some manœuvre to attract the attention of any by-stander; and each flap before spoken of being carefully closed over the orifice, and the oil wiped from the outer part of the toes, the chiropodist then by means of an instrument, like a large silver toothpick, with great adroitness disengaged what he called the corns, and brought them one by one to view, exclaiming, "*See de corn*:" the object being thus made visible, the operator, taking up a pair of long broad forceps, deeply grooved, and closing with a slide, proceeded to lay hold of it; and, suiting the action to the extremity of the case, he affected to exercise the utmost judgment and care in the ceremony of extraction,—which, having with apparent difficulty effected, the self-created corn was usually triumphantly exhibited, and its point applied to the back of the patient's hand, no doubt that its power to give pain might be felt. In conclusion, the flap before spoken of was trimmed off, and if there was any appearance of blood, the chiropodist applied small pieces of charpie dipped in a yellow-brown astringent, and every toe operated upon was bound neatly up and secured with adhesive plaster.

The "*Wolf corns*," or the spicula designated by Dr. Wolff as parings, are horny, bristly, or bony substances, which may be manufactured either of the parings of horses' hoofs, or the bones of fish; but I have greater reason to believe that they were manufactured from the parings of horses' hoofs. In length they are about one quarter of an inch, some jagged, some smooth, and others curved, and in size they do not exceed that of a small pin.

This imposition appears to have been carried nearly through the length and breadth not only of our island, but into Ireland, to say nothing of the continent. In Ireland, I have evidence of the extraction of £8 from the purse of a lady, and in my own immediate neighbourhood of £6 for 25

spicula. From London, I have received various communications; and amongst them, of the extraction of 15 guineas from two gentlemen residing in that fountain-head of medical and surgical knowledge, besides similar, and, indeed, greater impositions practised elsewhere*. The most gratifying communication has been from Cheltenham, where it appears that the impostor for his mal-practices on the feet of his patients, was sent to exercise his own feet on the treadmill.

The object from first to last in the proceedings against Dr. Wolff has been to expose the absurdity of his theory, and the extent of his trickery: and the object of addressing to you this exposition of the mystery of his operations has been to show the necessity of great caution, particularly in our profession, in certifying anything not well understood. In my own case, I considered myself perfectly secure from imposition, not simply from the personal recommendation of Dr. Wolff by the gentlemen whose house he had just left, but from a splendid book of certificates, containing the autographs and seals of several noblemen; and printed testimonials from many members of high eminence in our profession, on which I could but rely; as fully justifying a recommendation of the operator to my friends, by whom they were so grossly deceived, and the deception upon whom well warranted, in my opinion, the proceedings which I thought proper in justice to them to adopt.

ROBERT WAKE, M.D. M.R.C.S.E.

Southwold, Suffolk,
Jan. 1847.

ON THE ACTION OF CAMPHOR ON THE TEETH.

SIR,—Some communications having appeared in the *Medical Gazette* relative to the action of camphor on the teeth, two of which, one by Mr. Levison,* the other by Dr. Bradshaw, differ materially,—Mr. Levison thinking it possible that camphor held in solution by spirit may, when used as a lotion, become deposited on the teeth, where it meets with acid, the result of stomach derangement, causing irritation and recession of the gums, and ultimately injuring the dental organs. Dr. Bradshaw, on the other hand, and in my opinion more reasonably, believes the effects of camphor to be indirectly useful to the teeth, by causing the receding gums again to cover the neck of the tooth when deficient in enamel; and although he has erred in stating that enamel was composed *wholly* of fine phosphate and

* We have heard of another instance where the same sum was extracted from the pocket of a graduate of the University of Cambridge—*Ed. Gaz.*

carbonate of lime without a trace of gelatine or cartilage, which, according to Berzelius, in 100 parts contains 2 of animal matter, 88½ of phosphate of lime, 8 of carbonate of lime, and 1½ of phosphate of magnesia, yet it is very unlikely that so small a proportion of animal matter as that contained in the enamel would much, if anything, increase its liability to destruction. Whether the process of decay commences, as Dr. Bradshaw is of opinion, beneath the enamel or not, it will require future investigations to determine; but of this I am certain, that I have used and recommended to others camphorated chalk as a tooth powder for several years, and my experience of it would justify me in stating that it can, at all events in that form, have no injurious action on either teeth or gums. I am of opinion that very many of the cases of tooth-ache proceed from recession of the gums the result of disease induced by accumulations of tartar where the teeth and gum join: in fact, I often see persons whose gums have receded from the teeth, leaving the teeth loose and painful, and who, on the continued use for some time of camphorated chalk, are amply repaid by their teeth becoming clean, firm, and free from pain. The friction employed in the use of all tooth powders should not be lost sight of, both in cleaning the teeth and promoting a more healthy state of the gums; but that any gum stimulant, or whatever it may be, would prove injurious to the teeth during the very short time it is permitted to remain on while brushing them, is scarcely possible; more mischief unquestionably results from the neglected employment of tooth powders than from their peculiar composition, unless in the case of acids.—I am, sir,

Respectfully yours,

J. CAMPBELL,
Surgeon

Lisburn, Jan. 1847.

THE USE OF ETHER VAPOUR IN SURGICAL
OPERATIONS.

SIR,—In administering the vapour of ether to a patient in the recumbent position, it was found the valves would not act until the patient's head was raised and the valve-piece became perpendicular. To remedy this, I have secured the end of an elastic tube 2 inches in length into the valve-piece, which terminates in a mount, on which is placed a pad with a hole in the centre formed of 10 or 12 thicknesses of flannel and covered with morocco, somewhat of an oval shape, being 5½ inches in its long and 4 inches in its short diameter. A mouth-piece of ivory or silver, an inch in length from the worm, with a good-sized bore and pierced by several transverse holes, is screwed into the mount, over which a piece of vulcanised rubber larger than the

pad with a hole in the centre is placed. The person who administers the vapour can easily press this on the patient's mouth, and compress the nose with the same. I may here state that the bore of the glass tube should not be less than an inch and half in diameter in any portion of its course, or the elastic tube less than half an inch in the bore; in fact, the whole canal should be sufficiently large to enable the patient to inspire with ease. I have continued to use this apparatus for procuring insensibility to pain during the extraction of 70 teeth, making a total of 160 operations on the teeth, and have found in addition to the state of the pupil and condition of the pulse, another means of testing the fitness of the patient to undergo an operation. A galvanic apparatus being placed upon the table, a current was passed through the patient's hand after he had inspired a few times through the tube, when he evinced consciousness of pain by the motion of his hand and other signs; the inspiration of the vapour was still continued, and the galvanic current occasionally passed until he appeared quite insensible to the shocks, and presented no evidence of the current passing; when the operation was performed, and the result proved the complete success of the experiment.

These facts, then, sir, would render it probable that the first effects of the ether vapour are made manifest in the sensorium by loss of sensibility to pain, and afterwards of consciousness, &c., the subsequent effects being a gradual, and at least complete suspension of reflex action, and even of muscular irritability, so far as manifested by the galvanic current.

In addition to the above, the Cæsarian, the extirpation of a breast, the amputation of a great toe, and the excision of a large portion of the lower jaw, have been performed here on patients whilst in a state of insensibility from having inhaled the vapour from this tube.

S. J. TRACY.

St. Bartholomew's Hospital, Feb. 1, 1847.

P.S.—In conclusion, I may add, that the most recent experiments have proved that the above effects are not confined exclusively to the vapour of sulphuric ether, but are capable of being produced by ethers in general, more especially by the chloric ether, which has the additional advantage of a pleasant taste. At present, the acetic ether appears almost an exception to this statement.

THE MORTALITY OF ENGLAND AND WALES
COMPARED WITH OTHER COUNTRIES.

SIR,—It is so much the custom to disparage the climate of England, and to assert that this country is more insalubrious than

many other parts of Europe, that not only foreign but even some English physicians believe such remarks are well founded, and, consequently, they consider a visit to the Continent will be often a judicious proceeding, and beneficial to health. Undoubtedly this may prove correct in some diseases, and in particular constitutions, although not to the extent generally entertained. Having visited many of the places celebrated as residences for invalids, both in the centre and south of Europe, I could easily dilate on these interesting topics, and shew that very exaggerated, if not erroneous, notions prevail respecting the advantages likely to ensue from a visit to German Spas, or even to the far-famed climate of Italy; but, as my communications to your influential

journal are intended to contain facts and deductions, rather than to disseminate opinions which some of your readers might consider speculative, I refrain from alluding to any personal observations I made when visiting continental hospitals, or to data which were otherwise obtained during a prolonged tour in France, Italy, and Germany, in order to resume the analysis of the tables contained in the recent Report of the Registrar-General. In illustration, therefore, of the superior salubrity of England, compared with many other parts of Europe, I would beg to direct attention to the subjoined synopsis, indicating the population, total deaths, and rate of mortality, observed in the respective countries therein enumerated.

Comparative Rate of Mortality in different parts of Europe.

Country.	Population.	Total Deaths.	Under 1 Year.	100 Years & upwards.
			(per cent.)	
Dalmatia . . .	394,028	8,659, or 1 in 46·09	1,853, or 21·62	21, or 1 in 408
England and Wales	15,927,867	346,446, or 1 in 45·97	77,394, or 21·76	109, or 1 in 3,178
Moravia . . .	2,166,638	57,172, or 1 in 37·89	19,326, or 33·80	32, or 1 in 1,786
Lombardy . . .	2,547,976	82,130, or 1 in 31·03	28,676, or 34·91	21, or 1 in 3,910
Galicia . . .	4,797,243	156,567, or 1 in 30·64	49,710, or 31·74	122, or 1 in 1,283
Bohemia . . .	4,174,168	139,909, or 1 in 29·81	48,274, or 34·57	128, or 1 in 1,093
Venetian Territory	2,168,573	76,198, or 1 in 28·45	27,457, or 36·03	4, or 1 in 19,049
Upper and Lower Austria . . .	2,267,194	126,767, or 1 in 17·88	27,618, or 21·78	31, or 1 in 4,089

The country occupying the highest position in the above table, although not much visited by Englishmen, is nevertheless occasionally mentioned, from giving the title of duke to one of Napoleon's most celebrated marshals, the present Prime Minister of France, and also from the fact that the best Maraschino (di Zara) is made in that remote part of Europe. However, whether well known or otherwise to English physicians, Dalmatia stands forward, according to the preceding scale, in remarkable contrast, in respect of its rate of mortality, when compared with the other districts to which reference is made. Not only the total deaths, in proportion to the population, are somewhat less than in England, which stands next in the table, but the amount of children dying under one year of age is also smaller, whilst the number of persons who attained a very advanced period of life is most remarkable, seeing so many as one person in every 408 deaths had passed their 100th year; whereas, throughout England and Wales, only one person in every 3178 deaths reported, reached that patriarchal age. Contrasted with such proofs of the salubrity of Dalmatia and of England, the results observed in the Venetian Territory, and especially in Upper and Lower Austria, are very striking, and worthy of examination. In the latter country, the

amount of deaths is so great that actually one in nearly every 18 inhabitants is annually carried off by death; whilst in the Venetian Territory, although the average mortality is diminished to about one in every 28½ inhabitants, the deaths nevertheless amongst children under one year is greater than in any other country referred to in the table, being upwards of 36 per cent.; whereas only four persons, in a population of more than 2,000,000, or only one individual in 19,049 deaths, lived in that district beyond their 100th year. To use the language of insurance offices, double premiums would be scarcely safe business for the insurance of individuals inhabiting North Italy; but for those living at Vienna and the provinces of Upper and Lower Austria, the risk appears even more hazardous, since the general rate of mortality in that part of Europe is two and a half times greater than in England.

As the reader may examine at leisure the various calculations contained in the previous table, I shall not enlarge on the other interesting features it presents, further than to notice the marked difference in the term of human life which prevails on the eastern, compared with the western, shores of the Adriatic. The former district (Dalmatia) is mountainous, rocky, and thinly peopled, and its inhabitants live much in the open air: it has no large

river, like the Danube or Po, which always renders a neighbourhood unhealthy, and the waters, collected from the hills, run rapidly to the sea, by the Kerka and Cettina. On the other hand, the Venetian territory lies low,—is damp and marshy,—is intersected by numerous rivers and tributaries joining the Barchiglione, Brenta, Piave, Meduna, and Tagliamento, besides the lagunes of Venice, the numerous mouths of the Adige, and the Po, with the unhealthy swamps in the neighbourhood. In such a country, which in winter is exposed to cold winds from the Alps, and a high temperature in the summer, it is not wonderful if that part of Italy has a climate inimical to health, and the registers shew a very great mortality.

Although many persons in this country consider a residence on the sea-coast more salubrious than living in the interior, I have nevertheless been led sometimes to doubt the correctness of this opinion, from personal observation and experience. In support of this conclusion, I would refer to results deduced from the Registrar-General's recent Report, as well as to some interesting facts respecting the prevalence of scrofula and phthisis in the sea-side and inland towns of England, derived from Mr. B. Phillips's valuable work on Scrofula, recently published. In Liverpool, which has a population of 286,487, according to the above official document, the total deaths were 8,470, or one in every 33·82 individuals, those under 5 years of age being 4,605, or 55·54 per cent. of the whole number. In Birmingham, on the other hand, notwithstanding its dirt, smoke, the unhealthy and confined nature of the occupations of the inhabitants, which amount to 182,922, the total deaths were 3,767, or only one in every 48·55 individuals, whilst the number of children dying under 5 years of age was 1,837, or 48·76 per cent.: that is, 7 per cent. less than in Liverpool; the general mortality of Birmingham being still above the average of all England. In Dover, which has recently become a fashionable place for persons in search of recreation and health, the registers tell by no means a favourable tale as to the salubrity of this marine residence, seeing that, in a population of 13,872, the deaths amounted to 485, or one in every 28·60 individuals,—thus constituting an unusually high average rate of mortality. Again, according to the statement contained in Mr. Phillips's treatise, the deaths from phthisis were one in 301 inhabitants of sea-side towns; but in those situated inland, the ratio was only one in 206. In regard to scrofula, the deaths were one in 12,050 inhabitants of sea-side towns; but in those situated in the interior parts of England, the proportion was one in

13,178 inhabitants.* These, and the various facts contained in the preceding part of this communication, deserve consideration; and, I confess, conclusions unfavourable to the influence of sea air and a residence on the coast for the cure of such complaints, as also in regard to mortality generally, may be very fairly deduced by medical practitioners.—With thanks for all favours, I remain,

Yours faithfully,
MEDICUS.

Jan. 1847.

Medical Intelligence.

PAINLESS OPERATIONS ON THE LOWER ANIMALS.

AT the Royal Veterinary College, Camden Town, the inhalation of the vapour of ether has been had recourse to, with the most decided success, during operations on the sheep and the horse. The first-named animal was affected, and had been for some months, with ulceration of the hock-joint, associated with a large deposit of osseous matter, and sinuous wounds discharging ichorous pus. The pain was very great, and the foot could not be rested on the ground. The sheep being caused to inhale the vapour of ether through a tube, in about five minutes it was under its full influence, when Mr. Simonds proceeded to amputate the limb at the thigh, without the slightest suffering being evinced by the animal; and, within eleven minutes from the commencement, it was restored to consciousness.

Before the horse was sufficiently affected by the hypnotic, little more than thirteen minutes had elapsed, when he fell forwards, and, being turned on his side, he remained perfectly quiet, while Mr. Spooner divided and excised a portion of each metacarpal nerve of the near fore leg, the foot-joint capsule being in a state of ulceration. As in the sheep, not the slightest pain was evinced, even when the nerves were cut through; and, in about twenty minutes, the effects of the ether had entirely passed off.

No mechanical contrivances were resorted to, nor any restraint whatever exercised, to keep the animals in the required position for these operations; and there is no doubt

* May not this circumstance be due to the fact that large numbers of persons in the last stage of scrofulous disease resort to sea-side towns with the vain hope of recovering their health, and, by dying there, swell the mortality of those situations. Our correspondent has scarcely proved that struma is more rife among the *fixed population* of the sea coast than among the inhabitants of inland districts.

the state of insensibility would have been produced sooner had the apparatus employed been more perfect, that used being one temporarily arranged by Mr. Morton for the occasion.

PAINLESS OPERATIONS AT LYNN.

THE inhalation of ether has been tried by Mr. Cotton, at Lynn Hospital. In the first case, a female with cataract, its influence was speedily produced, the operation completed, and the eye bandaged, before the patient recovered from her state of apparent unconsciousness. In a second case of cataract of an old *maruceptible* man, at least ten minutes elapsed before insensibility could be effected, when the operation was completed without pain, and the man almost immediately recovered his consciousness. In a third case, that of an old man with cancerous fungus involving the whole lower lip, a few inhalations sufficed to prepare the patient, and the lip was completely pared by the knife without the slightest indication of pain or the least flinching. In this case the inhalation was again repeated, and during its influence a glass rod, dipped in strong nitric acid, was repeatedly applied to restrain the bleeding which flowed rather freely from the incised part: a slight involuntary retraction of the muscles was only observed, and the man, on coming to himself, said that he had felt no pain, and it was only on the application some time afterwards of a ligature to an obstinately bleeding vessel that he first complained of being hurt. The apparatus used was an imperfect modification of the tube and bladder recommended by Mr. Herapath. The bladder was not inflated, but merely washed out with hot water previous to placing the ether in it.

DETECTION OF SUGAR IN THE EXPECTORATION IN A CASE OF DIABETES.

At the last meeting of the Manchester Pathological Society, Dr. Francis produced a specimen of sugar which he had obtained from the expectoration in a case of diabetes with phthisis pulmonalis. We reserve any fuller particulars for our usual report of the proceedings of that Society.

DENTAL OPERATIONS AT THE WESTMINSTER HOSPITAL UNDER THE INFLUENCE OF ETHER.

At a meeting of the House Committee of the Westminster Hospital, held on Tuesday, 26th January, 1847, attention having been directed to a report of a speech made by Mr. Hale Thomson, at the Westminster Society, on the 16th instant, which appeared in the Medical Gazette of the 23d instant, it was

“Resolved,—That the attention of this Committee having been called to the para-

graphs in the Lancet and Medical Gazette of the 23d inst. reflecting on the mode in which dental operations have been performed under the influence of ether in this Hospital, and having heard evidence upon the subject from several physicians and surgeons who were present at the majority of operations, are of opinion, that there is no ground whatever for the statements made, but on the contrary, that all the operations were performed by the dentist in the most scientific manner.”—*Extracted from the Minutes*, F. J. WILSON, Sec.

PROGRESS OF ZOOLOGICAL SCIENCE.

THE mammalia numbered, in 1828, by Cuvier and Desmarest, at 700 distinct species, now reach nearly 1200; the fishes, estimated somewhat earlier by Lacépède, at 2000, are now increased to about 8000; while the insects, calculated by Humboldt in 1821 at 44,000, have at this time reached the amount of 100,000 collected species.—*Present State of Physical Science, Quarterly Review*, Dec. 1846.

TO THE RIGHT HONOURABLE SIR GEORGE GREY, BART., HER MAJESTY'S PRINCIPAL SECRETARY OF STATE FOR THE HOME DEPARTMENT, &c. &c.

THE Memorial of the President, Vice-Presidents, and Council of the National Institute of Medicine, Surgery, and Midwifery,

Sheweth,—

That your memorialists are legally qualified members of the medical profession, and are general practitioners of medicine, surgery, and midwifery. That the National Institute is a voluntary association of general practitioners in medicine, surgery, and midwifery; that your memorialists have been duly elected the representative council of the National Institute; and that they represent the opinions of above four thousand of the general practitioners of England and Wales.

That medicine, surgery, and midwifery, are departments of the same profession; which profession, in a scientific and educational point of view, is essentially one and indivisible, although, for the convenience of the public, it has for a long time past consisted of three classes, viz.: physicians, practising physic only; surgeons, professing to practise surgery only; and the class of practitioners of which your memorialists constitute a large proportion, practising not only physic and surgery, but midwifery also; the last-mentioned branch not being comprised in the range of practice generally undertaken by the members of either of the two former classes; and that this tripartite division of the practice of medicine must continue to exist.

That of every hundred practitioners in this country, more than ninety belong to the class which your memorialists represent; and that the greater number of the individuals constituting this numerous class are legally and fully qualified as general practitioners, by possessing a license to practise medicine, and a diploma granted after an examination by the College of Surgeons and qualifying them as surgeons; although there are many exceptions to this rule arising out of the anomalous state of the existing laws relating to physic and surgery.

That the general practitioners have ever been, and still continue, the ordinary professional attendants of many members of the aristocracy, and of by far the greater proportion of the middle classes of society, and that they may be considered exclusively the medical advisers of the labouring population of this country; physicians and pure surgeons acting as consulting practitioners, and their assistance being called for in cases of great emergency or difficulty arising in their respective departments; and that the physician or the pure surgeon, or both, educated specially, and confining their practice to their respective departments, can never supersede the necessity which exists for a competent body of medical practitioners performing all the functions of the present class of general practitioners, and educated to the highest practicable standard of qualification in the science and art of medicine and surgery.

That, in further illustration of the views of your memorialists, your memorialists regard the division of medical practice into distinct departments, as those of physic and surgery, presided over by special institutions, and represented by different individuals, as an arrangement chiefly adapted for densely populated and wealthy communities, and generally available by the rich only; and that even in the metropolis and in the larger towns the general practitioners must always constitute a majority of the profession, while, in country districts, the division of labour here indicated is totally impracticable; and your memorialists have a thorough conviction that the well-being and comfort of every class in this great community are more or less dependent upon the competency and skill of this class of practitioners; and that every defect in the medical institutions of the country, or any line of policy calculated to retard the progressive improvement of the general practitioners,—or to depress the standard of their qualification, or to diminish their scientific and practical attainments, or in any way to lower their status in society,—has not only the effect of debasing the character of the profession in this country, and of retarding the progress of medical science, but is fraught

with incalculable, direct, and consecutive evils to society at large.

That, notwithstanding these considerations, the general practitioners of medicine, surgery, and midwifery, are without a head or home amongst the institutions of this country, and their position is at present most anomalous. They are acknowledged as practitioners of medicine alone, under the Apothecaries' Act, and they have been recognised as practitioners of surgery alone by the College of Surgeons: neither the Society of Apothecaries nor the College of Surgeons recognises them as practitioners of medicine and surgery—as one profession. The College of Physicians, by its constitution and by-laws, can have no sympathy with them, but a direct interest in maintaining the class, in point of education, general and professional, and qualification to practise medicine, at as great a distance from the standard of that College as possible. Since the recent grant of a Charter to the College of Surgeons, that College has no sympathy with them, but has a direct interest in maintaining them, in point of general and professional education and qualification to practise surgery, at as great a distance as possible from the standard of qualification adopted for the fellowship of that College; and the College of Surgeons has, moreover, rendered it totally impracticable for any great proportion of them, as general practitioners, although possessing its own diploma as surgeons, ever to become Fellows of the College. The examinations instituted by the Apothecaries' Society, and their certificate relating only to the practice of medicine, obviously are inadequate to their present requirements; and yet, by a singular anomaly, this Society is the only body capable of giving a legal title to practise.

Thus, although, as your memorialists have shown, the general practitioners constitute an indispensable professional body, which has been created by the customs and necessities of the community at large, and although they have progressively increased in numbers, and may now be estimated at many thousands, and have rapidly advanced in scientific and professional acquirements, and are possessed of great individual influence, they are unknown in a collective capacity; and legislative enactments have been attempted under the auspices of special institutions, representing particular sections of the profession, having interests peculiar to themselves, and diametrically opposed to those of the general practitioners, without even an allusion to their existence. And your memorialists most emphatically declare that this anomalous state of the profession operates as a direct infliction of the greatest evils upon society, especially by the systematic efforts which it engenders to depress

the attainments, the character, and the status of the general practitioners, and by arresting the progress and preventing the diffusion of knowledge in the great body of the profession.

That for these and other considerations, it has for a long time past been acknowledged by all parties that the laws affecting the medical profession are most defective; and your memorialists having been led to hope that the present Government may entertain the question of Medical Reform during the ensuing Session of Parliament, your memorialists have felt it their duty respectfully to call the attention of the Government to some of the more prominent circumstances relating to the class which they represent; and they have felt called upon to do so at the present moment more especially as various attempts have been made from time to time to induce the Legislature to revise the said laws, which attempts have failed, owing, according to the belief of your memorialists, to the interests of the general practitioners, as before recited, not having been duly recognized, and the public welfare, as connected with the efficiency and respectability of the great mass of the profession, having been accordingly entirely overlooked.

That, in the opinion of your memorialists, the principal objects of Legislation in medical affairs are to promote the public health by securing the education of a sufficient number of persons for the practice of the profession to meet the medical and surgical exigencies of the community, to ensure the advancement of medical and surgical knowledge and its general diffusion among all classes of the profession, and to protect the rights and privileges of the public, and of qualified practitioners, by rendering it penal for unqualified persons to practise.

That different plans of Medical Reform having been suggested, but every attempt to effect such reform having hitherto proved abortive, and your memorialists having stated truly what they believe to have been the chief cause of failure in these attempts, your memorialists do not desire, upon the present occasion, further to press their own opinions upon the Government as to the principles, or to enter into the details of a measure of medical reform; but they are anxious to assure the Government that they would most gratefully accept of a settlement of this long-agitated question, from whatever source it may come, provided the interests of the general practitioners were duly regarded in any measure that may be proposed, that efficient medical and surgical advice and attendance were secured for all classes of the community alike, and that proper encouragement were given to the advancement and diffusion of medical and surgical knowledge. At the same time, your memorialists, aware,

from their former experience, of the obstacles that are likely to be opposed to Legislation on the subject of Medical Reform, feel it their duty further to state that, although they would be willing to accept such a modification of either of the existing institutions as should make it the head and home of the general practitioners, giving the general practitioners therein the means of securing a complete and efficient medical and scientific education for their own class, yet they have a strong conviction that the objects of medical reform can only be certainly attained by the establishment of a new college, distinct and different from either of the existing special institutions, which shall embrace all persons possessed of any recognized qualification or license whatever, and in actual practice as general practitioners at the time of its foundation, and shall provide for the education and qualification of all its future members; and further, your memorialists cannot refrain from the remark, that the founding of a new college, in accordance with the spirit of the present age, is worthy the consideration of a paternal government and of a social reform ministry, and that such a step would develop the energies of the medical profession in a manner, and to an extent, hitherto unprecedented in this country; would maintain the respectability of the great mass of the profession; would promote the science and art of medicine and surgery; and, inasmuch as the duties of the general practitioners have an intimate connection with every legislative proceeding bearing upon public hygiene and sanitary improvement, would be one of the most direct and efficient means of ameliorating and preventing those social evils which are acknowledged to prevail to a lamentable extent in this highly civilized community.

That your memorialists, therefore, pray that no Bill affecting the medical profession may be brought into Parliament which does not recognise the general practitioners as a class, and provide for them an efficient control over the education of the members of that class, so that they may not only maintain the high standard of qualification which is now adopted, but that, by the cultivation of collateral sciences, they may promote the progressive improvement of the class, and thereby secure the true respectability of the great body of practitioners in this country, to whose skill and judgment the limbs and lives of the mass of the population are entrusted.

Your memorialists, in conclusion, have only respectfully to call the serious attention of the Right Honourable the Secretary of State to the facts, opinions, and sentiments contained in this memorial, in full confidence that matters of so much importance to the profession of medicine in this country, and to the public interests, will meet with due

consideration, and respectfully to request that an opportunity may be afforded them of giving, as they are prepared to give, the fullest explanation that may be required by a deputation from their body, or otherwise, as may be most convenient.

ROBERT RAINEY PENNINGTON,
President.

Offices *pro tem.*—Hanover Square Rooms,
24th December 1846.

OBITUARY.

On the 2d inst., at his residence, Bristol, Gawen Ball, M.D., a respected member of the Society of Friends, in the 81st year of his age.

On Saturday, the 30th ult., at Ryde, A. T. S. Dodd, Esq., aged 44, late of Chichester, surgeon.

On the 29th ult., at No. 2, Gray's-inn Square, Walter Parsons, Esq., assistant-surgeon, R.N., in the 30th year of his age.

On Sunday morning, the 31st ult., William Fortescue, Esq., surgeon, 9, Smithfield Bars, æt. 68, deeply regretted by his family and friends.

SIGNS OF PREGNANCY.

Dr. MIKSCHEK has been led, by the examination of the urine of fifty pregnant women, to the same conclusion as many other investigators have already arrived at, with reference to the little value to be attached to the presence of kysteine in the urine as a sign of pregnancy. He found that in the majority of cases, an opalescent membrane formed on the surface of the urine after it had been allowed to stand for several days; but the same appearance was observed in many other instances independent of either lactation or pregnancy.—*Dr. West's Report on Midwifery, 1845-6.*

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Jan. 23.

BIRTHS.		DEATHS.		Ar. of 5 Wint.	
Males....	679	Males....	631	Males....	542
Females..	655	Females..	594	Females..	536
	1334		1225		1068

DEATHS IN DIFFERENT DISTRICTS.

(34 in number;—Registrars' Districts, 129.
Population, in 1841, 1,915,104.)

WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326)	190
NORTH—St. Marylebone; St. Pancras; Islington; Hackney .. (Pop. 366,303)	255
CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London .. (Pop. 374,759)	212
EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar .. (Pop. 393,247)	245
SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich .. (Pop. 479,469)	223
Total	1225

CAUSES OF DEATH.

ALL CAUSES	1225	Water av. 1068
SPECIFIED CAUSES	1217	
1. Zymotic (or Epidemic, Endemic, Contagious) Diseases ..	151	128
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat ..	111	112
3. Brain, Spinal Marrow, Nerves, and Senses ..	163	170
4. Lungs and other Organs of Respiration ..	531	554
5. Heart and Bloodvessels ..	54	53
6. Stomach, Liver, and other Organs of Digestion ..	78	70
7. Diseases of the Kidneys, &c. ..	14	8
8. Childbirth, Diseases of the Uterus, &c. ..	17	13
9. Rheumatism, Diseases of the Bones, Joints, &c. ..	11	7
10. Skin, Cellular Tissue, &c. ..	4	2
11. Old Age ..	65	81
12. Violence, Privation, Cold, and Intemperance ..	19	30

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	5	Convulsion	43
Measles	11		
Scarlatina	14	Bronchitis	172
Whooping-cough ..	50	Pneumonia	186
Typhus	28	Phthisis	166
		Dis. of Lungs, &c. ..	15
Dropsy	21	Teething	15
Sudden deaths ..	9	Dis. Stomach, &c. ..	30
		Dis. of Liver, &c. ..	10
Hydrocephalus ..	35	Childbirth	72
Apoplexy	25	Dis. of Uterus, &c. ..	5
Paralysis	20		

REMARKS.—The total number of deaths was 157 above the winter average. Deaths from pulmonary diseases, 531 (winter average, 554). In all the districts, the mortality was above the winter average.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer	30.0
Thermometer	32.6
Self-registering do. max. 0° min. 19.5	
“ in the Thames water — 35.5 — 30.5	

a From 12 observations daily. b Sum.

RAIN, in inches, .49: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 3.5° below the mean of the month.

NOTICES TO CORRESPONDENTS.

Mr. C. Taylor's case of Dislocation of the Ankle Joint has been received, and will have early insertion.

Dr. Wardell's paper, No. X. has come to hand. We propose to resume the publication of the papers next week.

Dr. W. Bevan's note has reached us.

The paper forwarded to us by Mr. Delamotte is under consideration. It arrived too late for the present number.

RECEIVED.—Dr. Hake.—Dr. Campbell.—Dr. Webster.—Dr. Tyler Smith.

Lectures.

A COURSE OF LECTURES
ON
MEDICAL JURISPRUDENCE,

BY ALFRED S. TAYLOR, F.R.S.

Delivered at Guy's Hospital.

LECTURE XIII.

LIFE INSURANCE (continued.) *Cases in illustration of the medical relations of insurance—omission to state in the certificate the usual medical attendant—concealment of intemperate habits—what is intemperance?—Southcomb v. Merri-man—improper medical certificates—Craig v. Fenn—delirium tremens—case of Cochrane—what ought to be stated in a certificate—proximate and remote effects of intemperance—influence of habit—certainty, and not probability, required in evidence—case of Greswold—alleged concealment of epilepsy—of phthisis—Geech v. Ingall—Walters v. Barker—effects of abstinence—Opium eating—is the concealment of this habit material?—case of the Earl of Mar—cases shewing the injurious effects of this practice—its effects on children—the existence of it should always be declared—its influence on longevity—inveterate smoking.*

LIFE INSURANCE.—The principles which govern cases of life insurance, and the rules upon which medical certificates should be granted and medical evidence given, cannot be better shown than by a reference to cases. There are very few cases which come to trial from which some valuable information may not be derived.

The usual medical attendant.—In the declaration made by an applicant this must be stated. The meaning of the words is plain and obvious enough; but we continually find that policies are set aside by the fact of the insured having given a reference to some medical man who may have casually attended the party recently before the time of insurance. Our judges always hold that this is a non-compliance with the requisitions of the office, and the policy is void. In the case of Colonel Lyon, related in the last lecture, a verdict was returned for the office on this ground. This happened in another case—that of *Wilschere v. Brown*, tried before Lord Abinger in the Exchequer in December 1842. In the case of *Palmer and Fish v. Irving*, tried at the Norwich Summer Assizes, the deceased had returned that he had never had a medical attendant. His life was insured for a large sum on the 21st November, and he died on the 5th December

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following. There was reason to believe that he had died from inflammation of the lungs but it was proved that he had laboured under phthisical symptoms, and had been attended by three medical men shortly before he effected the insurance. This was concealed, and the policy was set aside on the ground of fraud.

Intemperate habits.—In a large number of cases the payment of policies is resisted on the ground of concealed drunkenness and general habits of intemperance. There is some difficulty in these cases, because medical men may entertain different opinions respecting the effect of such habits upon the general health, and the degree to which they may be safely carried. There is one thing, however, certain—whatever may be our opinion of their effect on health, we are bound to state, if known to us, that they exist, and thus put it out of the power of a Company to dispute a policy upon such a ground. From the frequent concealment of habits of this kind, the offices now adopt the practice of making it a special question, to which a plain negative or affirmative answer should always be given.

When intemperance is alleged, we find not only conflicting medical evidence, but much cross-swearing among the witnesses. It becomes a question—What is intemperance? and this is answered according to the peculiar views of the witness. There was a case tried at the Exeter Spring Assizes in 1842, which shews the difficulty of getting at the truth. The case was that of *Southcomb v. Merriman*. Payment was disputed by the office on the ground of concealed intemperate habits. At the trial the representatives of the insured called twelve witnesses to shew that the deceased was a very temperate man, while the office called twenty-one to shew that he was habitually intemperate! One of the temperance witnesses (for the plaintiff) defined drunkenness to be "when a man lost his reason, could not give a proper answer, was not able to do business, had lost his legs, and was obliged to be carried home." He admitted that the deceased had occasionally continued drinking for three or four days together, but that was a very rare occurrence. The medical attendant who gave the certificate said that the deceased's was a perfectly good life; and he considered him to be a person of sober and temperate habits, because he did not think that drinking had any effect upon his health. He had not thought it requisite to inform the office of these occasional outbreaks. Several witnesses proved that deceased was in the habit of drinking enormous quantities of beer, and that it required a great deal to make him ramble. The insurance was effected in October 1839, and the deceased died in April 1841, from in-

inflammation of the lungs; but, in the opinion of the medical witnesses, this had not arisen from excessive drinking. Notwithstanding the concealment of these facts, the jury returned a verdict for the full amount claimed; but a rule for a new trial was afterwards obtained.

This case shews what fallacious views are entertained on the medical questions of life insurance. In a case like this, it was clearly the duty of the medical witness to describe the habits of the deceased. He might, if he pleased, have appended to the certificate that in his judgment they had not affected the health of the party; but those who were to take the risk should have been placed in a position to form a judgment for themselves.

In the case of the Hon. H. G. Talbot (*Craig v. Fenn*), December 1841, where no answer was returned to the question whether the deceased was of temperate and moderate habits of life, and the company actually charged a higher premium in consequence, the jury returned a verdict in their favour, the real condition of the insured not having been made known to them.

One of the most singular cases of this description, in reference to conflicting medical evidence, was that of *Rawlings v. Desborough*, tried by Lord Denman in December 1837. The main question was, whether a Mr. John Cochrane, whose life had been insured, was or was not a person of intemperate habits at or before the time of insurance. A medical certificate had been given to the effect that his habits were not intemperate. The weight of the evidence, however, general and medical, tended to shew that he was a thorough drunkard. One of the witnesses for the plaintiff said, the deceased "never appeared to me to take anything to hurt a man. I never saw him drink more than the rest of the company. I only saw him intoxicated fifty or sixty times in four years. His health did not seem to be impaired by what he drank." His groom stated that he had seen his master "tipsy a hundred times, perhaps, but not beastly drunk." Mr. Travers had examined the deceased for one office, and, from what he saw, had advised that his life should not be accepted. He considered him to be labouring under *delirium tremens*. One observation made by this witness is worthy of remembrance, when you happen to be engaged in examining a person under these circumstances; *i. e.*, a man may have pursued an intemperate course for some time, and yet his appearance may be such as to lead a common observer to imagine he was in the plenitude of health, when he is liable to become the subject of an immediate attack. Notwithstanding the strong evidence of habits of intemperance from a

period anterior to that of the insurance, the jury returned a verdict for the plaintiffs; but a motion for a new trial was soon afterwards made. Lord Denman observed upon this occasion, in respect to what was material concealment, that he did not conceive the true meaning to be, that the party whose life was to be insured was bound to volunteer a statement of every circumstance that anybody might afterwards think was likely to affect the risk of his life. The real intention was, that he should submit himself to full examination and inquiry; that he is bound to state nothing untruly, and that he is bound to answer truly. If he decline to answer, the office may act upon his refusal; and, if he answer untruly, no party shall gain a benefit from such false statement.

In February 1840 a trial took place before Chief Justice Tindal (*Pole v. Rogers*) relative to a policy on the life of Mr. Peter Cochrane, brother of this Mr. John Cochrane. The insurance was effected in 1834. The insured died the following year of hydrothorax, brought on, as it was alleged by defendants, by very intemperate habits, the existence of which was concealed from them. The evidence, both medical and general, was just as conflicting as in the other case, and it became rather a question of credibility. The jury returned a verdict for the plaintiffs, thereby either denying the existence of intemperance, or considering that the concealment of it, if it existed, was not material.

This case is worthy of note in one point of view, as it involved a new question in medical jurisprudence. This is, whether, in reference to this question, we are to regard the *immediate* or *remote* effects produced by intemperate habits? The Solicitor-General, who appeared for the plaintiffs, argued that the terms "habits prejudicial to health" were too indefinite. Was it to be regarded as an abstract or relative proposition? He appeared to rest his case upon an admission that there was intemperance to a certain degree; but he contended that habits which were not at all prejudicial to the health of one man would absolutely kill another. There was a very common habit of keeping late hours. This might be utterly destructive to the health of some persons, but not to that of others. This sort of condition was so vague that it left it open to an insurance office to resist the payment of any policy, unless the meaning of the words was brought within some reasonable and well-defined limits. The jury were bound to see whether the alleged intemperate habits had been indulged in for a long time without injury. They must look to all the habits of the individual taken together, and see whether one habit was not counteracted in its effects by another. The insured was a man of very active habits; and, therefore, exces-

sive drinking would not affect him as it would others who led a sedentary life.

This argument, you will perceive, bears upon an important medical question. We all know that intemperance is a relative term, and may be differently construed by different medical witnesses. The real question, however, divested of its sophistry, is this:—Can any person indulge in an excessive use of alcoholic liquids without this practice sooner or later leading to an impairment of health, by producing disorder of the stomach and liver, and remotely affecting different organs? The effects of such habits may not shew themselves immediately; but the office requires to be informed of their existence or non-existence, and not of the period when they are likely to affect health visibly, and to engender a fatal disease. To say that a man can be addicted to excessive drinking without impairing his health, is a physiological absurdity. There is no such compensation as that which the Solicitor-General supposed to exist in the above case. Habit may accustom a man to intemperance,—it may enable him to drink a large quantity of alcoholic liquid without being apparently injuriously influenced by it at the time;—but a deranged state of system must assuredly follow, and delirium tremens or dropsy will probably supervene. A good natural constitution may enable a man to resist the pernicious effects for a certain period, but ultimately they will shew themselves in some form of disease; and in the case of these two brothers, the result of their intemperance was made apparent in the very early deaths of both. It is unfortunate that no light is permitted to be thrown on such cases by pathology. Post-mortem examinations are not made; for, the death being, as it is called, natural, it is not thought necessary to inspect the body, although, as in the above disputed cases, the condition of the liver and other organs might have removed the difficulty which arose from the conflicting nature of the evidence on the habits of the deceased.

In all cases of a contested policy, one important principle is uniformly acted upon. Those who resist the payment are bound to prove what they allege by clear and undisputed evidence. A court will not receive probability or conjecture,—the evidence must be certain. Hence many suits fail from the medical evidence going no further than to shew that a particular disease or habit had *probably* existed at the time of insurance. If the disease or habits be shewn to have *certainly* existed, the evidence may still fail to prove satisfactorily that the concealment was wilful or material.

These cases are very instructive: they often shew the imperfect manner in which medical

observations respecting health or disease are made, and that the medical treatment of individuals whose lives are insured may become a material question, in the event of a policy being disputed. In the case of *Chattock v. Shawe*, in reference to an insurance on the life of a Colonel Greswold, a question arose not only respecting the concealment of intemperate habits, but as to the existence of delirium tremens, from the examination of handwriting, as well as from the description given by non-professional witnesses. It was here even a matter of doubt as to what had caused the death of the deceased. According to one witness it was a mixture of Asiatic cholera, phrenitis, and epilepsy! It was proved that more than three years before the insurance was effected he had met with a fall, and that he was afterwards seized with a fit, described by some witnesses as epileptic; by others as due to concussion of the brain. The existence of intemperance and epilepsy prior to the insurance was not made out to the satisfaction of the jury, and they returned a verdict for the representatives of the insured.

A case was tried at the Warwick Summer Assizes, 1844, (*Geach v. Ingall*), in which it was alleged that the existence of *phthisis* or phthisical symptoms had been concealed from the office. On the side of the plaintiff the medical attendant of the insured was called, and certified, that in May 1840, when the policy was issued, he considered the deceased to be in good health, and an insurable life. A physician who examined the deceased in February stated his belief that the chest of the deceased was sound, and he considered him to be a very good life. For the defence, two medical men were called, who deposed that deceased had had spitting of blood before effecting the insurance; and that he had laboured under decided symptoms of consumption in 1840, which it was inferred must have existed at the time of the insurance. There was evidence of a general consumptive tendency in the family. The father died of it, and there was no doubt whatever that the insured had died of it in December 1843,—three years and a half after the policy was issued. The medical evidence was conflicting; but the existence of the disease at the time of insurance rested upon presumption, and not upon proof; hence the jury returned a verdict for the plaintiff. A second and a third trial were had upon this case, on the ground of misdirection by the learned judges; but verdicts were again returned on both of these occasions in the plaintiff's favour. It is most probable that the seeds of consumption existed in the insured; but, unless there be some plain and certain evidence from symptoms, proof of this will amount to nothing. If inferential proof of this kind were suffi-

dent to avoid a policy, the payment of most policies might be easily and successfully disputed. Had the deceased died soon after the insurance, there might have been greater probability in favour of the view adopted by the office; but he lived nearly four years afterwards; hence, if the symptoms had existed in a confirmed state at the time of insurance, of which there was no direct evidence, for the medical officer of the company had certified in favour of the life, the case must be assumed to have been of an unusually protracted kind.

In the case of *Walters v. Barker*, tried at the Monmouth Summer Assizes, 1844, the deceased, at the age of sixty, insured his life on the 4th May, 1841, and died in the August following. It was alleged by the office that the cause of death was an attack of paralysis, which it was pretended had existed from a very early period of his life. No medical evidence was given on either side; there was merely a presumption that death had taken place from paralysis; hence the verdict was for the plaintiffs.

Abstinence.—We have already considered the effects of habits of intemperance, and the necessity for stating in a certificate the existence of them when known; but other habits may exist which have a tendency to shorten life, although in a less obvious way. What are called *temperance* principles are or were very prevalent. There are many persons who have been full livers, and have afterwards taken up the notion that water and a vegetable diet were all that was necessary to support life. This sudden change, especially in persons advanced in life, is very likely to affect the constitution seriously, and, if not to create disease, so to weaken the vital powers as to render any slight illness serious. I knew one instance in which a gentleman who had been in the habit of living on a full diet, with a moderate use of alcoholic liquids, suddenly adopted the plan of living on water and vegetable food. He obviously fell off in strength, and lost his previously healthy condition. About a year afterwards he met with a slight sprain to the ankle-joint; inflammation ensued, which, in spite of the best treatment, assumed an unhealthy character; suppuration of the joint followed; amputation of the leg was performed, but, in spite of an improved diet, the powers of life never rallied. There was no attempt at union in the flap, and he finally died exhausted. There can be no doubt that these sudden changes in the mode of living are liable to lead to impairment of health, and to affect materially the expectation of life. Hence it is our duty to inquire and report upon facts of this kind when they become known to us.

Opium-eating.—There is another habit said to be common, the concealment of

which gave rise to an important trial some years since. I allude to the practice of *opium-eating*. In 1826 the Earl of Mar effected an insurance on his life; and two years afterwards, i. e. in 1828, he died of jaundice and dropsy, at the age of fifty-seven. The insurance-company declined paying the amount of the policy, on the ground that the Earl was, at the time of the insurance, and had been for some time previously, an opium-eater. This practice was concealed from the insurers; and it was further alleged that it had a tendency to shorten life. It was clearly proved in evidence that the Earl had been a confirmed opium-eater up to the time of his death. According to Dr. Christison, he used laudanum for thirty years, at times to the amount of two or three ounces daily, taking a table-spoonful for a dose. He was a martyr to rheumatism, and, besides, lived rather freely. Many individuals who were constantly about him, and many intimate friends, deposed, that until 1826 (the year of the insurance) he was of a cheerful disposition, and clear in his intellects. Some of them admitted that they then perceived a change in his habits, which they attributed to the adverse circumstances in which he was compelled to live. In 1825 Dr. Abercrombie found him enfeebled, and broken down in constitution, but without any definite complaint. The main question at the trial was, whether opium-eating had a tendency to shorten life; for on this turned the issue,—whether the concealment from, or the non-communication of the practice to, the office, was or was not material.

Drs. Christison, Alison, Abercrombie, and Duncan, were examined on the part of the insurance company; and, although they entertained the opinion that the habit had a tendency to shorten life, they could not adduce any cases in support of it. This opinion was based on the general effects of opium, as manifested by its action on the brain,—by its producing disorder of the digestive organs, and giving the individual a worn and emaciated appearance. In most of the instances collected, there was no evidence that life had been shortened by the practice. On the contrary, some of the individuals had carried it on for years, and had attained a good old age. The jury returned a verdict for the plaintiffs, not on the ground that the practice was innocuous, and its concealment immaterial, so much as on the technical point that the insurers had not made the usual and careful inquiries into the habits of the deceased; and they were therefore considered as having taken upon themselves the risk from their own *laches*. It appears that the *general* question with respect to habits was not answered by the medical referee; and it was therefore con-

sidered that the Office had taken the risk and waived the knowledge of them. A new trial was granted, on the ground of misdirection; but the suit was compromised.

Hence it will be seen no decision was come to on this important question, which is very likely to arise again. We must therefore examine some of the facts connected with opium-eating, in order, if possible, to see how far it really tends to shorten life. In the case of the Earl of Mar it appeared to be a fair inference that the habit did not shorten life; for he is represented to have indulged in it for thirty years; and for twenty-eight years, according to the statements of his friends, no injurious effects had followed. Dr. Christison has collected no less than twenty-five cases from numerous quarters, from which we learn that opium has been taken in large quantities for forty years together without producing any marked injury to health. Lately, at the London Medical Society, Dr. Clutterbuck related the case of a woman who for seven years had taken two scruples of solid opium daily. She was fifty-four, had led an irregular life, and had first taken opium to relieve the pains of rheumatism. The dose was not increased, and the usual ill effects of opium were absent,—such as constipation, nausea, and loss of appetite. Although she did not increase the dose, the effects of the diminution of a single grain of her usual quantity were most marked, and she immediately perceived them. Many cases of this description are recorded in medical works. Such cases appear to shew that opium-eating has not necessarily that tendency to shorten life which it has hitherto been supposed to have. There is, however, sufficient evidence to prove that the practice gives rise to prejudicial effects on the system, and tends to rise to impair health. It may not have this effect in all cases, except on the withdrawal of the stimulus; but this is not the question. It might be on this principle argued that the drinking of alcoholic liquids has no tendency to shorten life, because some hundreds of cases may be adduced in which the individuals have been addicted to intemperate habits for years, and have still appeared to suffer but little in bodily health. They who have witnessed the effects of opium-eating in Turkey and China agree that the practice leads to the speedy destruction of health. Dr. Oppenheim, in writing on the state of medicine in Turkey, says: "The habitual opium-eater is readily recognised by his appearance. A total attenuation of body,—a withered yellow countenance,—a lame gait,—a bending of the spine, frequently to such a degree as to cause the body to assume a circular form.—and glossy deep sunken eyes,—betray him at the first glance. The digestive organs are in the

highest degree disturbed; the sufferer eats scarcely anything, and has hardly one evacuation in a week; his mental and bodily powers are destroyed. As the habit becomes more confirmed, his strength continues decreasing, the craving for the stimulus becomes greater, and, in order to produce the desired effect, the dose must be constantly augmented. After long indulgence the opium-eater becomes subject to neuralgic pains, to which opium itself brings no relief. These persons seldom attain the age of forty if they have begun to use opium early." This description of the effects is exactly what we should expect from physiological and pathological reasoning. Dr. Christison states he has ascertained that constipation is by no means a general consequence of the continued use of opium; but this may be an exception to the rule. It is believed by some that the action of the drug may be different in different countries, and that the description of the effects produced by the use of opium in Turkey, cannot be applied to the English opium-eater. The following case, however, which occurred to Dr. A. T. Thomson at University College Hospital, is adverse to this view:—

E. M., aged 35, was admitted May 26th, 1835. About seventeen years ago she began to suffer from a pain in the right iliac region, for which a medical gentleman ordered her to take ten drops of laudanum, night and morning. This was gradually increased, the pain continuing, until at last she took three tea-spoonfuls every four hours, night and day.

At first the ten drops relieved the pain but it was found necessary to increase the dose to produce the same effect; so that the three tea-spoonfuls at last did not produce so much relief as did the ten drops at first. The effect of the small doses was simply to produce a relief from the pain, without exerting any other particular influence on the body or mind. As the dose was increased, however, she found it produce a very comfortable condition of the mind. She felt lively and cheerful, and was capable of doing any quantity of work; it also produced a sense of warmth over the whole body. She had severe family afflictions, but was not at all distressed by them whilst under the influence of opium, though she felt them severely at other times. If she passed over the usual time for taking a dose, she felt the most distressing sensations about the joints, not of pain, but such as she was unable to describe. She suffered involuntary motions of the arms, fingers, and toes; numbness in the limbs and body generally; profuse perspiration, nausea, vomiting, and loss of appetite; a saline taste in the saliva, and a bad taste in the mouth; tremor in the limbs; great sense of debility and la-

situde. The memory and mental powers generally became greatly impaired, attended by a miserable depression of the spirits. These symptoms were all relieved by a repetition of the dose. The opium also produced constipation,—not more than one motion occurring in a week; and she does not recollect whether that was produced by medicine or not. If the dose was deferred, she had always suffered severe headache. Her sense of smell was so much impaired that she could perceive no pungency in snuff; her taste was so much lost that she could not distinguish pepper or mustard; and her hearing was become so deficient that she could hardly detect the voice of any one who spoke; yet her own voice sounded most disagreeably loud to her. Her touch was so much affected that she could not execute any needle-work. The acuteness of all her senses was restored by the usual dose, the want of which was indicated by flushing and heat of the face. During the period of taking the opium she had very little sleep, and in the intervals she could not attempt to sleep, from want of the desire, so that she generally worked all night. What sleep she had was generally in the day-time, and that little was much confused, and easily ended. About five or six years ago, her resources being exhausted, she obtained admission into the hospital. Her laudanum here was left off for the first three days, and all the above symptoms continued; also now, for the first time, she appeared to see the most frightful animals and other objects in the ward. The symptoms were again relieved by her usual doses. The laudanum was being decreased during the whole time; and when she left the hospital she took a tea-spoonful in the course of the day. On returning home, and being dependent on her friends, she was obliged to discontinue the laudanum and wine, and was even unable to get beer. She was now more miserable than before, all the symptoms returning with increased severity, and for the first six months she was almost entirely helpless. She was then first affected with pain in her chest and a cough, which has continued ever since. She was twelve months at home before the above distressing symptoms disappeared. The only consequences of her opium-eating at present, are a very much impaired taste, numbness of the limbs, coldness of the feet, inability to walk far without aching pains in the limbs, and a general sense of lassitude.

There is also abundant evidence that this drug, as it has been administered to children in the factory districts, has produced serious detriment to health. In Mr. Grainger's report on the Children's Employment Commission, it is stated that laudanum and other preparations of opium are given to young

children in gradually increased doses, until the child will bear from fifteen to twenty drops of laudanum at a time. The child becomes pale and wan, with a peculiar sharpness of feature, and rapidly wastes away. The majority of these children die by the time they are two years old. These facts appear to shew that climate does not at all affect the action of the drug in the early periods of life; and I do not think that the observations yet made are sufficiently numerous to justify us in affirming the existence of this influence with respect to adults. Dr. Christison has remarked that many may die young from the effects of this habit, without the secret being discovered; for even the medical attendant may be kept in complete ignorance of his patient indulging in it. On the whole, we are bound to conclude that the habit of opium-eating must be injurious to health, and is therefore calculated to shorten life. The insurers ought to be informed of this habit, where it exists, and no medical man should sanction its concealment merely because many addicted to it have lived for years in apparently tolerable health. One of the questions put to a medical man is, whether he knows of any material circumstance touching the health or habits of the person to which the other questions in the certificate do not extend; and, if so, he is required to state them. Now, without going the length of saying that the life of an opium-eater is uninsurable upon common risk, the habit is itself sufficiently material to require that it should be declared in reply to such a question as this. The practice may be, and often is, concealed from a medical attendant; then the insured, if not candid in avowing its existence, must expose his representatives to the risk of losing all benefit under the policy. Independently of medical data, which appear to favour both sides of this question, the jury would probably be guided by the effect actually produced on the constitution of an individual who had been addicted to the practice. If it have continued many years, and there be no proof of his health having in consequence undergone any remarkable change, this might be regarded by the jury as the best possible evidence in favour of the concealment not being in that case material. The insurers could not equitably complain of the verdict in the Earl of Mar's case; for, as he began opium-eating at twenty-seven, and died at fifty-seven, without any obviously injurious effects being produced by the use of the drug, it could not be said that, in his case at least, the practice had shortened life. I do not know that it is in our power to apply any better or more practical test than this, under circumstances in which medical facts

appear to bear both ways. The case is very different from intemperance in the use of alcoholic liquids. No one can doubt that in this form of intemperance, the result must be inevitably to impair health and to shorten life. The facts here bear one way; and, if instances of longevity can be adduced among spirit-drinkers, they are well known and generally admitted to be exceptions to the rule. The queries put by insurance offices are now so explicit, that they must be considered as including the habit of opium-eating; and there does not appear to be any just pretence for evading the admission of the practice, either on the part of the insured or (if known to him) of his medical attendant.

Smoking.—I am not aware that the prevalent habit of smoking has ever been regarded in relation to life insurance. Although inveterate smokers are liable to attacks of dyspepsia and other derangements of the system, we have not, so far as I know, any evidence to shew that the practice has a tendency to shorten life. Should the habit be stated? I think it should, if known to the medical referee, and where it is of a most inveterate kind. This might at least prevent objections on the part of a captious company. There is no rule of law on this point, if we except a dictum of Lord Mansfield's:—"The insured need not mention what the insurer ought to know, what he takes upon himself the knowledge of, or what he waives being informed of; the insurer need not be told general topics of speculation."

At our next meeting I propose to consider the subject of life insurance as it relates to insanity and suicide.

RETARDATION OF SANITARY REFORM.

WHILE the Government is openly showing great anxiety for improving the drainage and sewerage of towns, it is practically throwing a serious check in the way of improvement by not interfering to reduce the enormous expenses incurred by those members of corporations who become applicants for private acts of Parliament. The expenses now incurred are ruinous. We learn that Mr. Chadwick showed in the case of an opposed water bill that *one-fourth* of the money on which the inhabitants would have to pay interest! went for Parliamentary expenses. It is asserted that the money expended in Liverpool for the private act legislation would have sufficed for the effectual drainage of more than 2,000 houses!

Original Communications.

ON THE

USE OF THE VAPOUR OF ETHER IN HOOPING-COUGH, SPASMODIC COUGH, AND ASTHMA.

By R. WILLIS, M.D.

THE profession are now intent on studying the admirable effects of the vapour of ether in diminishing or temporarily suspending sensibility: allow me, through you, to direct the attention of my brethren to the therapeutical application of the same agent in other directions, which I believe will be found scarcely less important, and, perhaps, even more extensively useful, than it is in connexion with the performance of serious surgical operations. I refer to its use in the treatment of spasmodic diseases generally of the respiratory organs.

Ether, given *by the mouth*, has long been familiarly employed in the treatment of asthma. I have for many years been aware of the fact that it is vastly more efficacious administered directly in vapour *by the breath*. My plan of using it is extremely simple. I have had recourse to no kind of apparatus for this purpose, but have been content to pour two, three, or four drachms of the fluid upon a clean handkerchief, and to direct this to be held closely to the mouth and nostrils: a single short and difficult inspiration is hardly made before the effect is experienced; and I have occasionally seen the paroxysm ended in six or eight minutes, the respiration having in that brief interval become almost natural.

It is not otherwise with whooping-cough: the paroxysms of coughing are positively cut short by having the ether and the handkerchief in readiness, and using them when the fit is perceived to be coming on. So effectual have I seen their immediate application, that I have even found it necessary to suffer the patient to have an occasional fit of coughing to its natural termination, with a view to clearing the chest from accumulated mucus.

Whooping-cough often, perhaps most frequently, proves fatal, in the absence

of all inflammatory or organic disease, through the simple violence and continuance of the spasmodic cough. The patient goes on coughing till the lungs fail in their function; he becomes livid in the face, and black blood is circulated to the brain; convulsions then ensue, and animal sensibility fails or is lost. The spasm may now have ended, but the sufferer is no longer aware of the *necessity of breathing*; the respiratory muscles are paralysed, a minute passes, and life is gone. If respiration be restored at this critical moment, life may be saved; and this I have myself done: using my own mouth to the child's, to free the air passages from the frothy mucus that filled them, and blowing the chest up gently, circulation returned, automatic movements followed, and consciousness was restored; and, though this be now five-and-twenty years ago, the child, that to all intents and purposes then lay dead, now lives, a strong man.

I need not insist on the importance of a therapeutical agent that will prevent spasmodic cough from proceeding the length of preventing the necessary changes from taking place in the blood through respiration.

Nor is it only hooping-cough that proves fatal in the way described: men of plethoric and gouty habit, with short necks, are often subject to violent spasmodic cough, which I am satisfied proves fatal more frequently than is generally suspected. Some of these subjects, who are mostly returned as dying of apoplexy, or in a convulsive fit, do in fact die immediately from the effects of spasmodic cough. I was lately summoned to a case of the kind: the man was in perfect health the moment before being seized with a violent fit of the cough to which he was subject. He struggled with it for a minute or so; could not get his breath; became black in the face; had a slight convulsive movement, and then was still for ever. I believe that ether upon a handkerchief would have saved this gentleman; but of course it must have been used before the sensibility was extinguished or all effort to respire had ceased.

In some of the forms of laryngeal disease which are accompanied with partial spasmodic closure of the glottis, I have also employed the vapour of

ether with good effect,—as a temporary means, of course,—and always in conjunction with treatment directed against the inflammatory states or organic changes with which such diseases are so frequently associated.

These hints,—which may possibly attract more attention at this time, when the public mind is alive to the extraordinary effects of the vapour of ether, than they did ten years ago, when I used to announce them orally in my lectures on medicine,—I throw out briefly and hurriedly as matters for the consideration and farther experience of the profession.

Barne, Surrey,
Feb. 2, 1847.

. It is due to Dr. Willis to state, that, owing to an accident, this interesting and practical communication did not reach us in time for the last number.

THE SCOTCH EPIDEMIC FEVER OF 1843-4.

By JOHN RICHARD WARDELL, M.D. Ed.

Late President of the Royal Physical and
Hunterian Medical Societies,
Edinburgh; &c. &c.

[Continued from last volume, p. 4057.]

VIII.—*There was almost universally a recurrence of the primary symptoms during the patient's convalescence, and such relapse sometimes took place to the third or even fourth time.*

REAL relapses in typhus, some physicians confidently assert, no more take place than they do in the exanthemata. By relapse it must be understood is meant a positive repetition of the primary symptoms of the disease, in a patient who is convalescent from fever, having just passed through the febrile state,—the affection spontaneously recurring and again passing through the various phenomena of the febrile paroxysm. Other authorities, and those who have paid very great attention in the study of typhus, aver that relapses, though exceedingly rare, do sometimes occur. Dr. Perry, of Glasgow, who writes respecting the epidemic of that city in 1831, says, "that out of 1145 cases there were 19 relapses, averaging 1 in 60." Dr. Henderson, from a careful record of

2,000 patients, confidently affirms that "cases in typhus no more relapse than do those of measles and small-pox." I am fully aware that a patient in typhus may, after the critical period has passed, suddenly become worse; the pulse may rise, the skin become hotter, &c. denoting an aggravation of existent symptoms, but then such can generally be traced to an obvious cause, which when discovered readily explains that which otherwise might seem mysterious, and be attributed to the *prima causa* naturæ of the disease, instead, as it should have been, to an adventitious circumstance. Errors in diet, a variable temperature, some moral calamity causing great mental disquietude, or any similar excitant applied either to the mind or body, would be fully calculated to produce an aggravated state of the disease, but not a repetition of it. An inflammatory condition of some vital organ may supervene during convalescence, which would most likely be attended with a considerable addition of constitutional disturbance; there would, of course, be an accompaniment of symptomatic fever proportionate to the degree of local inflammation; yet this, however difficult it might be to discriminate between the two febrile types, viz. the idiopathic and symptomatic forms, would be a phenomenon referable to a topical cause, and not a relapse according to the general acceptance of that term. In my own humble opinion there are cogent reasons for believing that genuine typhus does not relapse, especially cases of eruptive typhus, which is the most unequivocal of all forms of that disease, and there is little doubt that those aggravated states, commonly termed relapses, are nothing more than conditions attributable to the above mentioned causes. In the seven days' fever, however, there were positive and negative facts demonstratively shewing that indisputable relapses did take place, and the febrile paroxysms were repeated often to the second or third, occasionally to the fourth, and in some rare instances even to the fifth time, and these occurring without any exciting cause being applied. There was an alternation of febrile and non-febrile states, constituting from one to five distinct febrile paroxysms, and the last pyrexial attack seemed as veritably

to proceed *ex primis causis* as the first; because the train of phenomena characterising the succeeding pyrexial states differed not in the essential particulars, because no precautions seemed to have any influence in preventing their return, because those returns observed a regular periodicity, viewing them to be the natural and spontaneous operations of the disease, and because they continued with unimportant variation from the commencement to the close of the epidemic visitation. From an attentive observation of the seven days' fever, from the beginning to its entire termination, the first febrile period was the most regular as well as the longest in its duration. The succeeding attacks were not so protracted, but with regard to the degree of intensity there was little difference between them. The febrile paroxysm succeeding the first intermission varied from a few hours to a few days; for the most part, however, it would continue from forty to fifty hours, when a powerful sweat resolved the fever as quickly and effectually as it had done the first attack. An intermission again was manifest, which, with rigors, hot skin, quick pulse, &c. foretold the accession of another relapse. This disposition to alternately recur and subside shewed that the fever possessed peculiarities somewhat resembling the true intermittent type: again, it will be seen by the tabular forms from time to time given in these papers, that the relapses were most frequent during the autumnal months, a period particularly associated with and accounted as favourable to the development of the intermittent fever, although, as above stated, the patients relapsed to the very termination of the epidemic. Some of the hospital physicians at the first attributed those returns to dietetic causes, and consequently observed the most scrupulous precautions, but apparently without the least effect, as they relapsed, not minding whatever diet they were ordered. Several patients under my own care continued the low diet longer than usual, with a view to the prevention of a return, but this, and similar plans, I was induced to abandon, from a conviction that such were quite ineffectual.

According to Dr. Christison and others, the fever of 1817-20 very com-

monly relapsed, and the average mentioned was one to five of the whole number, as deduced from the reports of the hospitals. My own statistics give the exact proportions taken at various times as follows:—In Table No. IV. (Sept. 1843), out of 330 cases 167, being 1 in 1·97, had one relapse; 29, or 1 in 11·38, had two relapses; 5, or 1 in 66, had three, and 1 had four relapses, giving in the aggregate 202 out of 330 that had one or more relapses. In Table No. V. (Oct. 1843), 72 out of 80 patients, being 1 in 1·11, relapsed one or more times. In Table No. VI. (Jan. 1844), out of 450 cases, 231, or 1 in 1·95, had one relapse, being about 10 out of every 19½; 14, or 1 in 32·14, two relapses; 2, or 1 in 225, three relapses; hence in the aggregate of this number 247, being 1 in 1·82, or about four out of nine, relapsed. In Table No. VII. (from Nov. 1843 to Jan. 1844), 38 out of the 40 cases there reported relapsed, being 1 in 1·006. In Table No. VIII. (April 1844), out of 80 patients, 40 had one relapse, being 1 in 2, and 4 had two relapses, being 1 in 20. From the above 980 cases, the following are the results:—viz. 603 had one or more relapses, being 1 in 1·62; 67, being 1 in 14·6, two relapses; 9 had three, being 1 in 108·88, and one patient had four relapses. There were one or two other instances in which the patients had five separate and distinct attacks. From a general view of the foregoing facts it is proved that not less than two-thirds relapsed before leaving the hospitals; and when we consider that many might have a return after their discharge, it would be no exaggeration to state confidently that three-fourths relapsed: some physicians at the time felt assured that those returns were of universal occurrence, if only the patient's malady could have been seen and watched from the very commencement until the disease had wholly subsided.

TABLE VIII.*

Males 35 = 1 in 2·28.

Females 45 = 1 in 1·77.

Residences:—

Canongate . . .	8 = 1 in 10·
Cowgate . . .	7 = 1 in 11·42
Grassmarket . . .	2 = 1 in 40·
High Street . . .	12 = 1 in 6·66

* Compiled in April 1844.

Closes . . .	13 = 1 in 6·153
Wynds . . .	10 = 1 in 8·
Westport . . .	4 = 1 in 20·
From other places	25 = 1 in 3·2
<i>Mode of attack:—</i>	
Rigors . . .	65 = 1 in 1·23
Nausea or vomiting	56 = 1 in 1·42
Arthritic pains, or } muscular pains }	52 = 1 in 1·53
<i>Predominating symptoms:—</i>	
Head . . .	54 = 1 in 1·5
Chest . . .	10 = 1 in 8·
<i>Abdomen:—</i>	
Left hypochondrium	22 = 1 in 3·636
Right hypochondrium	12 = 1 in 6·66
Epigastrium . . .	22 = 1 in 3·636
Delirium . . .	7 = 1 in 11·42
Cough . . .	18 = 1 in 4·44
<i>Assigned cause:—</i>	
Wet and cold . . .	22 = 1 in 3·636
Contagion . . .	31 = 1 in 2·68
None . . .	28 = 1 in 2·85
<i>Abstraction of blood:—</i>	
General . . .	4 = 1 in 20·
Local {	Head . . . 14 = 1 in 5·71
	Chest . . . 7 = 1 in 11·42
	Abdomen . . . 7 = 1 in 11·42
Yellow cases . . .	2 = 1 in 40·
<i>Relapses:—</i>	
First . . .	40 = 1 in 22·
Second . . .	4 = 1 in 20·
Third . . .	" "
Fourth . . .	" "
<i>Muscular or arthritic pains during convalescence . . .</i>	
	40 = 1 in 2·
<i>Dysenteric affections</i>	5 = 1 in 16·
<i>Stimulants:—</i>	
Wine . . .	10 = 1 in 8·
Spirits . . .	8 = 1 in 10·
Ale or porter . . .	10 = 1 in 8·

It was the opinion of the renowned Sydenham, that as much attention should be paid as possible to the prevailing nature of an epidemic, in order that we may gain an accurate knowledge of its peculiarities, and thus be enabled to bring an efficient treatment to bear upon the disease: respecting the attack now treated of this doctrine is fully applicable, for having become sufficiently satisfied that the relapses were the spontaneous operations of the disease, there was less cause to fear, than if those periodical aggravations had been considered as more of a local character. Respecting what has been advanced above relative to the non-relapsing nature of real typhus, this opinion merits the serious consideration of the practitioner, because important results might proceed from the one or other way of thinking. Those

who are disposed to conclude that relapses do occur in typhus will render themselves liable to the mistaking acute visceral inflammation for what they considered a mere relapse, and instead of the superadded affection being energetically combated, the insidious complication might be allowed to go on without much alarm to a fatal termination, when inspection would at once demonstrate the cause of that which had appeared unexpected.

9. — *The pulse might be extremely high, without causing any alarm as to the result of the case.*

The state of the pulse in fever is one of the most important considerations relative to this form of disease, and a very high pulse in typhus is mostly associated with other unwelcome symptoms. If its frequency should be great at the commencement of the attack, we may expect the case to become one of alarming character, as it always becomes more frequent as the disease progresses. In the seven days' fever facts very different were manifest, and a pulse which would have been, and justly, dreaded in typhus, caused little concern in the epidemic, constituting another peculiar feature in the history of this distemper. In typhus a pulse of 150 would lead us to the conclusion that the case was one fraught with much danger, and the accompanying physical signs would corroborate such an opinion. In the epidemic the degree of frequency had reached its maximum often by the fourth or fifth, but seldom later than the seventh day, while in typhus it is generally double that period before such takes place. At the commencement of typhus the pulse is often about 90 per minute;* an average deduced from eighty patients in the seven days' fever gave the mean frequency on admission as 98.1, and every succeeding day, until the crisis, it would increase in a ratio far exceeding that usually observed in the form of continued fever now mentioned. In some few instances it was so high as 170 or 180, and the patient recovered in the most satisfactory manner, nor was there any proportionate relation between the degree of severity of the other symptoms, and this unusual

frequency, which, reasoning from my former experience in the phenomena of continued fever, one might have been led to expect. The sudden reduction of the pulse in the distemper now treated of, was quite unprecedented, and more resembled that which takes place in a pure intermittent than in a fever of the continued form, a few hours often producing as great a change as an equal number of days generally effect in typhus. This fact was noted at an early period of the epidemic, and all those physicians who were brought to the bed-sides of their patients had their attention directed to this unusual phenomenon. Three or four hours, or half that time, would suffice for its reduction, from being extremely high, to its natural standard, and with this sudden change in the heart's action the other febrile symptoms would rapidly decline, so that in an incredible period the patient would become in a positive apyrexial state. In typhus the pulse gradually becomes slower and of better strength, and it generally requires many days to restore it to its natural standard. If an equal number of epidemic and typhoid cases were selected, in each where the pulse was very high, the proportionate mortality of the latter would be immensely greater than the former. In confirmation of this assertion I will here quote from Dr. Henderson. "Among the cases of the epidemic fever of which I have preserved daily reports," says the Doctor, "and which ended on the fifth or the seventh day, amounting to fifty, I find nine in which the pulse exceeded 135, and of these *one* died; and among sixty-eight cases of typhus fever, not selected, of course, I find thirteen in which the pulse exceeded 134, and of these *five* died, giving a proportion in the one set of cases of a mortality, in connexion with an extreme frequency of the pulse, of about 11 per cent., in the other of about 38 per cent.†" On a second comment on those data, Dr. Henderson says: "If we add four cases in which the pulse in the second paroxysm of the epidemic fever exceeded 135, to the nine previously noticed, we have a mortality in this disease connected with an extreme frequency of the pulse of 1 in 13, or less than 8 per cent." From

* Dr. Southwood Smith on Fever, p. 153.

† Edin. Med. and Surg. Journal, Jan. 1844.

what has now been said respecting the pulse in this disorder, it is quite manifest that the two descriptions of fever were dissimilar in one of the most essential diagnostic characteristics, there being no symptom upon which we place so much reliance as the heart's action. The subjoined case may here be quoted:—

CASE IX.—*Crisis 7th day—relapse 14th—high pulse, falls to the natural standard on the supervention of diaphoresis, which a second time resolves the disease.*

James Wilkie, æt. 24, single, complexion light, eyes blue, hair auburn, a stout muscular-looking man, and has been employed as a farm-servant. Admitted July 28th, 1843, labouring under an attack of the epidemic, which had been ushered in by the usual initiatory symptoms. States that his present indisposition commenced four days ago (24th), by a fit of shivering.

On admission, says that he did not sleep well last night. Countenance is rather flushed, has some tenderness over the hypochondriac and epigastric regions; skin hot and dry; breathing accelerated, but performed without pain; tongue moist, and is covered (except at the tip and edges), with a thick brownish yellow coat; bowels open; pulse 130, of good strength; urine passed in moderate quantity, which is high coloured.

Habest statim Infus. Cathart. ʒiv.; Mist. Salin. Diaph. ʒviiij.; ejus, ʒj. cap. 4ta q. q. horâ.

Cold cloths to be applied to the head, which is hot and feverish. To be sponged with tepid water. Ordered low diet.

July 30th.—Slept better last night, but is still much the same as yesterday. Pulse 128.

Medicamenta contr.

31st.—Sweat copiously this morning (7th day); pulse 80, of tolerable strength; slept pretty soundly since the sweat; is free from pain, and feels comfortable.

Mistura repetatur.

Aug. 1st.—Much the same as yesterday; skin moist; bowels open; urine passed copiously; complains of a slight pain in the chest, and has a little cough.

Habest Linct. Opiat. Horâ somni capendus Haust. c. Sol. Mur. Morph. gtt. xxx. in Aqua, ʒiss.

2d.—Cough not so troublesome, and says that he feels better. The case progressed in the most favourable manner until,

6th.—Had a fit of shivering this morning; much headache; skin hot and dry; tongue dry in centre; has a good deal of thirst; looks flushed in the face; is restless and uneasy; bowels not moved; urine high coloured and scanty; pulse risen to 120, of tolerable strength.

Hirudines viii. temporibus app. Mist. Salin. Diaph. Rep. Abradatur capitulum. Horâ somni haust. c. Sol. Mur. Morph. gtt. xxx. sumendus.

7th.—Had a tolerably quiet night, but did not sleep much; tongue dry; bowels open; urine voided nearly in normal quantity; head relieved by leeches; no cough, nor any pain in chest upon deep inspiration: pulse 120, rather weak and compressible.

Medicamenta Rep. Habest Vin. Rub. ʒj. in die. Clothes immersed in cold water to be applied to the head, which, though much easier, is still hot to the touch.

8th.—Much about the same as yesterday.

Med. et Vin. Cont.

9th, *Mane*.—Skin dry and burning to the fingers; countenance flushed; tosses about in bed, and feels very restless; had slight epistaxis this morning; head rather easier; tongue dry; bowels open; excretions pretty natural in appearance; urine passed in somewhat insufficient quantity: pulse 150, small, and not of very good strength.

Visit at noon.—Has had a very copious sweat, and pulse is down to 72, which is of pretty good volume, and of better strength. All sense of uneasiness gone; feels quite composed, and expresses himself as much relieved within the last two hours.

Mist. et Vinum Rep. Haust. Sedativ ut ante, h. s. sumendus.

10th.—Continues free from pain; slept well; bowels open; pulse nearly natural; tongue cleaner, and generally moist.

11th.—Slept well; complains of some arthritic pains, especially in the

right elbow and knees; in other respects progresses favourably.

Linimentum Saponis Co. ʒi. parti aff. app. bis tervedie. Vinum cont. Ordered common diet.

12th.—Continues to improve; rheumatic pains said to have been relieved by liniment; excretions voided normally.

Vinum Cont. Haustus Morph. ut. ante, h. s. s.

13th.—Progresses favourably.

To have steak diet. Vinum, ʒiij. tantum in die. Bibat Cerevisia, Oj. in die.

15th.—Goes on well.

16th.—Improves.

Vinum omittatur.

17th.—Improves.

26th.—Dismissed as cured.

REMARKS.—On examining the details of this individual's illness an example is given illustrative of what has been asserted above. On the morning of the seventh day, during the first attack, the pulse had become reduced to 80, after a powerful sweat, although, on the previous day, it was so high as 128. The critical sweat was succeeded by a tranquil sleep of some hours' duration, after which he was free from pain, and in every respect favourable; the secretions becoming more regular, and every indication of a speedy convalescence being manifest. Five days subsequent to this crisis the relapse set in, which, as usual, was characterised by a close repetition of the primary symptoms. The skin became hot, with other indications of the febrile state, and in the course of two or three days the pulse had risen to 150 per minute, accompanied with much general disturbance. I remember the particulars of this man's case perfectly, and also the surprise which I then felt on seeing such a very sudden transition from one condition to another. On going round the wards to see the patients in those beds belonging to the physician to whom I was attached, the nurse directed my attention to Wilkie, who then seemed very restless, and complained of some pain over the os frontis; the head felt hot, and a cold application was ordered to be applied, which gave him some relief. I saw him again when the physician made his visit, which was not more

than an hour and a half afterwards. He was now literally bathed in perspiration, the skin had become cool, he felt as mentioned in the report "quite composed;" the pulse, from being 150, small, and rather weak, was now reduced to its natural standard, of decidedly better volume, and of somewhat improved strength. His state was non-febrile. Thus, a space of less than two hours produced a veritable change, almost as great as that which we observe in typhus in a couple of weeks. What might have been anticipated as the result in typhus, with a pulse 150, and so copious a sweat? Certainly not the favourable condition which ensued in the instance of this man, but rather that spoken of in the foot-note relative to Mrs. S. in paper No. VI.; viz. a mortal termination. From this time Wilkie progressed as well as could be desired, and was dismissed the hospital a fortnight from the last crisis. Many other cases, exemplifying the same peculiarity, came under my notice, but, as a repetition of examples would not only be useless, but trespass too much on the pages of the journal which has done me the honour of publishing these papers, I shall confine myself as much as possible to a brief illustration of points at issue.

[To be continued.]

CASE OF LIGATURE OF THE EXTERNAL ILIAC ARTERY FOR SECONDARY HÆMORRHAGE FROM THE FEMORAL,

WHICH HAD BEEN TWICE TIED FOR POP-
LITEAL ANEURISM: DEATH FROM
GANGRENE OF THE LEG.

By JOHN DAVIES, Esq. M.D.

Physician to the Infirmary, Hertford,

Communicated by HENRY SMITH, M.R.C.S.
Late House-Surgeon to King's College Hospital.

SIR,—During some conversation which I lately had with my esteemed friend Dr. Davies, on the subject of Ligature of the External Iliac Artery, he related to me the following case, which fell under his care at the time he was surgeon to the Hertford Infirmary. He afterwards sent me the notes of the case, with a letter requesting me to put

them together, and to make any use of them I wished. Thinking that the case would be interesting to the readers of the *MEDICAL GAZETTE*, I forward it to you for insertion.—I am, sir,

Your obedient servant,
HENRY SMITH.

109, Great Russell Street, Bloomsbury,
Jan. 26, 1847.

James Kingston, æt. 40, wheelwright, admitted into the Hertford Infirmary, under my care, Sept. 2, 1841, with popliteal aneurism on the left side. He discovered it six weeks before, when about the size of a pullet's egg. It is now of considerable size, pulsating strongly. The leg is swelled to twice its natural size; the veins are extremely varicose all over the limb; general health apparently good; figure rather corpulent; has been in the habit of living well—that is, taking more beer than was necessary. He was ordered to keep the recumbent posture, the leg to be raised above the level of the heart.

Sept. 6, Monday.—I took up the femoral artery four inches below Poupart's ligament; the vessel was very little denuded; the pulsation of tumor immediately ceased. The wound went on very well until Thursday, 23d, when a little oozing came on; there was slight gastric derangement for some days previously. Ligature still remains.

24th, Friday, 6 A.M.—Tremendous hæmorrhage came on; pulsation of the wound; great infiltration of the liver, three times its natural size; swelling bulging up over Poupart's ligament; colour of blood venous all the time. Great weakness from loss of blood; anxious countenance; pulse 150; ligature fast; the blood comes out by the side of it. Owing to the great infiltration there is hardly any command over the artery; tourniquet of no use. At 8 o'clock, having got my friends together, I tied the vessel above the profunda, three quarters of an inch below Poupart's ligament: some difficulty owing to the infiltrated blood oozing into the wound, otherwise no loss of blood. Hæmorrhage immediately ceased. Vessel was tied without denudation. The wound was closed by two sutures. On clearing away the coagulum from the first wound, blood spouted out in a large stream. I first thought it was the

extravasated blood in the limb, but there was too much of it; colour was venous. I stopped it by applying the tourniquet below the wound; the pad pressing on femoral vein. In the afternoon tourniquet was taken away, and a compress and bandage was applied moderately tight all over the thigh. In the evening there was no hæmorrhage; patient comfortable. The limb is kept warm by hot water in a tin vessel.

25th.—Limb much reduced in size; no more hæmorrhage from first wound; appearances greatly improved in all ways; strength and expression of countenance much better. Applied bandage daily, moderately tight, all the way from toes to groin. Limb continued to diminish daily until the 29th, when he complained in the morning of having suffered pain and twitching in the leg during the last two days and nights, preventing him from sleeping. On examining the foot, discovered a dark-coloured blister on the third toe; the cuticle of the little toe was livid, and the blackness extended back on the outside of foot two or three inches. Strong gangrenous tendency in the whole foot. I painted the whole foot from ankle to toes with Tincture of Iodine; bandage to be left off.—Ordered gr. iij. of Quinine, with Tinct. Opii ℥xx. in Inf. Columbæ 6tis horis. Two glasses of wine daily. 8 o'clock in the evening.—Pain ceased as soon as the iodine had been applied; has been very comfortable, and has slept; gangrene has not extended, but foot looks rather better; blister has discharged itself and disappeared.—Rep. Tinct. Iodine, and continue other things.

30th.—Things look as well as before.—Continue the same.

Oct. 1.—Complains of having suffered much pain in the leg all night, extending along the course of the tibia; twitching sensations in the limb; general expression of restlessness and anxiety of countenance; pulse 130. On examining the leg, there was found a slight inflammatory appearance, like that preceding gangrene in old people, extending all the way up the leg, along the course of the tibia, and there was a spot here and there which had almost proceeded to a state of gangrene. On examining the last wound, it was found gaping, with jagged edges, the

sutures having cut their way out. Ligature still quite fast in the first wound, with a slight discharge of healthy pus by the side of it; the water-dressings have been used. Applied Tinct. Iodine all the way from the end of the toes to the knee, over the whole of the leg; this was repeated every day for several days, and then about every other day, and generally only to those parts that had shown most disposition to gangrene; occasionally, however, to the whole leg. The wound was dressed with a pledget of lint soaked in weak Tinct. Iodine, over which a wet cloth and oiled silk was applied.

From this time till Oct. 9th the wound went on granulating very favourably; the first ligature did not come away until Oct. 6th. Gangrene did not proceed further under the iodine; one fluctuating spot on front of tibia, as if fluid under the peritoneum: health good.—Full diet, with two glasses of port-wine a day: Quinine and Opium continued. Bowels kept open by Conf. Sennæ.

Saturday, Oct. 9th, at 1 P.M., hæmorrhage from second wound to amount of three or four ounces; it then ceased. Pulsation in the wound when the blood was flowing. The bleeding was first stopped by pressure on the artery just above Poupart's ligament, by Mr. Towers, the house-surgeon. As I saw that there was no use waiting that parts might again be injected with blood, I called medical friends together, and the patient consented to have the external iliac artery tied. It was evident that unless the epigastric and circumflex ilii were also secured, the hæmorrhage would not be stopped. I therefore determined to tie these two branches also.

Three o'clock, P. M., Oct. 9th.—I performed the operation of tying the external iliac. Placed the patient flat on his back on the table, with his legs hanging down in order to extend the fibres of abdominal muscles. I began the operation by making an incision upwards, including a little inwards towards the navel, extending about 3½ inches, commencing immediately above Poupart's ligament a little nearer the anterior superior spine of the ilium than the spine of pubis, and terminating over the outer margin of the rectus muscle, or three inches from the *linea*

alba. This incision, which was nearly parallel to the course of the artery all along, was carried down to the tendon of the external oblique. Having made an opening through the tendon and introduced a director, it was slit up and down to the same extent as the wound in the integuments. About 1½ inch of the lower edge of the internal oblique and transversalis was then divided by a bistoury, carried up on the forefinger of the left hand, introduced underneath between the transversalis and peritoneum. I used a sharp-pointed bistoury, and brought the point out first. I found a difficulty in the attempt to separate the fascia transversalis from the peritoneum; therefore I lifted both up together from Poupart's ligament, so as to expose the artery for the space of two inches or more above the ligament. Having separated the artery for a short distance from the iliac fascia, and from its sheath, I passed a ligature underneath it without difficulty, and without disturbing it from its connexions. The ligature was tied tightly and one end cut off close to the knot, and the other let to hang out of the wound. The ligature was placed about an inch or a little more above the origin of the epigastric, which I next tied close to the inside of the spermatic cord. On the other side of the main artery, the circumflex ilii was readily found which I secured about one inch from its origin. One end of each ligature was cut off close to the knot, and the other left to hang out of the wound. The patient did not lose two thimblefuls of blood during the operation. The edges of the wound were brought together by two sutures and two strips of adhesive plaster applied to the upper part of it, leaving a small space below for the ligatures and for the matter to find exit. The whole of the first wound and the previous one were then covered over with wet lint and oiled silk. The patient bore the operation very well, considering the previous ones and the loss of blood. He was ordered an opiate, and to continue the quinine and laudanum as before. To stop the wine and solids, and to take broth and beef-tea.

10th. — Has passed a comfortable night; slept some time; wound healthy; the second one granulating; no particular tenderness about the abdomen.

11th.—Doing well; pulse 90; continue.

16th.—This day the ligature of the second wound came away. The knot was closely examined, and from the small size of the noose, and the secure state of the tie, there is no doubt that the artery had been properly secured. No untoward symptom has occurred up to this date.

17th.—This day he feels low and complains of nausea, as he has generally done each time a few days before the hæmorrhage has come on.—Omit the quinine, and let him take a simple saline, and let him have simple solids, and apply a blister to the stomach.

22d.—The sickness has been occasionally better and worse up to this date, upon the whole diminishing. There is none to-day, and he has slept well. There is a gangrenous vesicle inside the heel, but it is not extensive. The wounds have looked well up to this time, but the discharge, though having the appearance of healthy pus, has always from the first had an unpleasant odour, and, from the colour of the dressings, there is no doubt of its containing sulphuretted hydrogen. The dressing throughout has been water or weak spirit lotion, with some Tr. Iodine occasionally. This day, on proceeding to dress the wound at noon, I observed that a very small discharge of blood had taken place. The quantity could not have exceeded half a teaspoonful; still the appearance was extremely suspicious. There was a small clot of blood visible at the bottom of the wound. The wounds were dressed as usual, the pus being sponged off without disturbing the clot. General symptoms improved; still the aspect of the patient is, and generally has been, not quite healthy; pulse from 75 to 85, weak, but not particularly so.

23d, noon.—No more bleeding. On sponging the wound the clot of blood came away, and the bottom of the wound looks clean and healthy. The three last ligatures (iliac, epigastric, and circumflex ilii) still remain fast. The general symptoms are as good as usual; no sickness; tolerably good night; appetite indifferent, as it has been for some time.

26th.—No unfavourable symptom up to this time. General health much improved. The three ligatures of upper wound came away to-day of

their own accord, without a drop of hæmorrhage.

Nov. 4th.—This day there came on suddenly a slight hæmorrhage, about two ounces: it was stopped by pressure.

15th.—The back had become rather sloughed on the region of the sacrum, from lying upon it, and on being turned round on his face to have it dressed blood spouted out from the wound in the groin suddenly. The wound was apparently nearly healed up. About half a pint of blood escaped in a few minutes in a full stream, but not per saltum. By the application of pressure by Mr. Towers, the bleeding was stopped. This day let out about 12 oz. of pus, which had been gathering for about a fortnight around the knee. General debility great, but appetite not much amiss. He had suffered a good deal of pain in the knee before the abscess was opened, but as there was no particular fluctuation in any part, it was not thought expedient to use the lancet before to let the matter out. The discharge of the matter afforded great relief.

23d.—No hæmorrhage since 15th. Although the matter had been cleared away from around the knee, still, from the swelling of the leg, it was evident that a collection existed in that part between the solens and deep-seated muscles. This day I found an extensive blue spot covering the inner side of gastrocnemius about 3 inches square. There was a deep fluctuation. Introduced a sharp-pointed bistoury deeply into the part, and let about 8 ounces of stinking matter mixed with gas. The leg was then painted over with Tr. Iodine; a small string of lint introduced into the orifice, and water-dressing. The general health is at a low ebb; system is evidently suffering from gangrenous disposition.

25th.—A very slight hæmorrhage to-day, not 3ss. General health very bad; considerable discharge from the leg of dirty stinking matter. Gangrenous appearance of the integuments not quite so great: considerable sloughing of the heel has taken place; last made wound at a stand still, neither healing or sloughing. The other two well with the exception of a few drops of pus occasionally from the second.

28th.—Much the same as last report.

Dec. 22d.—From the last report up to present date the sloughing of the leg extended. An abscess burst in the knee-joint, exposing the extremities of the bones extensively: the discharge of sanious pus continued very great. No more bleeding took place from the wound in the groin, but there always remained a clot in the centre which had never been covered over with granulations: it was about the size of a hazel-nut, surrounded by granulations. The middle wound below Poupart's ligament discharged a few drops of pus occasionally through a hole as large as a pin's-head. The first or lowest wound had been well for many weeks.

Considering the great extent of gangrene of the leg, of the immense discharge of matter from it, and the extensive exposure of the bones, including the knee-joint; moreover, that the sacral and coccygeal bones were much decayed from exposure and the weight of the body, the general health of the patient continued much better than could have been expected. It is true that he gradually wasted, but he never expressed much suffering: not much hectic; frequent sickness of late. He had occasional hiccup for about a week before he died, which event took place this afternoon.

Post-mortem appearances, 20 hours after death.—Having directed back the integuments so as to expose the natural track of the artery from the division of the iliacs to its passage through the tendons of the triceps muscle, the following state of things was observed:—

The vena saphena was much thickened in its coats, so much so as to resemble an artery more than a vein. On laying open the upper wound when the iliac had been tied, there was a very fibrinous clot of blood, the size of a small walnut, found imbedded in, and chiefly under, the granulations. On removing this, the artery was found divided, and the ends had retracted from each other to the distance of nearly an inch, in the space between which the clot of blood was imbedded. The upper part of the vessel was open at the mouth to the size of a common writing-quill nearly. It gradually contracted from the division of the common iliac to the point where it had been cut by the ligature, leaving the

mouth open to the extent just mentioned. The mouth of the lower portion gaped open, and presented a mouth large enough to admit the point of the little finger. The orifice of the vessel presented a thickened lip all round, which everted like the edge of a vase. No trace could be found where the epigastric artery had been given off and tied, but on the outer side of the trunk, within the eighth of an inch of the edge of the lip, a very small branch was in communication with it. Either this was the circumflexa ilii, or it occupied its position very nearly. If it was the circumflexa ilii, I could not have tied that vessel as I supposed I had done. This is possible, although I think it very improbable. The branch was much smaller than the circumflex usually is, and its course was lower down in the hollow of the ilium. However that may be, there is no doubt that hæmorrhage took place by the blood retrograding through this small vessel, which poured it into the main artery just below its open mouth. The clot already spoken of was much more adherent to, and more intimately connected with, the lower than the upper opening. A part of it was within, stopping up the gaping mouth of it, whereas the upper portion had partly retreated within, and covered itself by, cellular membrane.

The second wound now attracted our attention. Having cut through Poupart's ligament, and cleared away the cellular membrane, so as to expose the trunk of the vessel, the point where the ligature had been applied, and all below that point, had become obliterated. The ligature, as it usually does, had first cut through the coats of the artery, and the two ends had subsequently united. Immediately above the point where the ligature had been, the vessel was filled for three-quarters of an inch with a conical plug, which was firm, but not organised. Between the base of the plug and the open mouth above, already spoken of, the vessel was quite pervious. In front of it, immediately above the upper end of the plug, there was an ulcerated opening, with coats, about half an inch in length. Half an inch higher up, also in front of the artery, there was another ulcerated opening exactly of the same character. It is probable, therefore, that the hæmorrhage which succeeded

the second operation proceeded from ulceration some distance above the ligature, and not from the point where the ligature cut through the coats of the ligature, because a well-formed plug was here found. The only branch which communicated with the main artery between the upper and middle ligatures was the very small one already mentioned in the situation of the circumflex ilii. If blood retrograded through this branch into the open portion of the artery between the two ligatures, it would be liable to extravasate either at the inguinal wound, through the gaping mouth of the artery, or into the cellular membrane below Poupart's ligament, through the ulcerations in the coats of the vessel.

In the situation of the first wound, although hæmorrhage threatening the life of the patient took place before the separation of the ligature, yet the vessel was now found an impervious and continuous cord. The two ends had become so united and consolidated that the exact point where the ligature had been placed could hardly be distinguished. The obliteration extended down to the opening in the tendon of the adductor longus; the femoral vein was healthy throughout; so was also its iliac continuation.

On turning the body on its face, and exposing the parts in the ham, it was found that the greater part of the original aneurism had been involved in the extensive sloughing which had taken place about the knee-joint. All the ligaments and cellular membrane surrounding the joint had sloughed away, leaving the bones exposed, and kept together simply by the tendons of the muscles of the thigh. In the upper part (which was all that remained) of the aneurism, some fragments of fibrinous blood existed. For the distance of about 2½ inches above that part, the back of the artery was considerably enlarged, and, being divided across, it was found to consist of two vessels of about equal size, which terminated together by open mouths in the original position of the sac: they were traced up as two distinct vessels as far as the opening in the tendon of the adductor longus, at which point the track became impervious. It appears that the artery originally divided about this point with two equal branches. The texture of

the twin vessels was by no means normal: their coats were considerably harder and thicker than natural, and they appeared as if they had not of late been regular arterial conductors of blood. Whether this morbid state existed prior to the first operation, and was a part and parcel of the physical condition of the artery which gave rise to the aneurism, and which barred the success of the three successive operations, or whether it was a condition brought on after the operations, owing to the current being diverted from the vessels, it is, perhaps, not easy to determine from their appearance after death.

OPERATION FOR
SCIRRHUS OF THE LEFT BREAST,
PERFORMED DURING THE INHALATION
OF SULPHURIC ETHER.

By W. PHILPOT BROOKES, M.D. M.R.C.S.
England.

Surgeon to the General Hospital and Dispensary, &c. &c.

HAVING occasion to perform the operation of extirpation of the left breast for a scirrhus tumor, but in which the glands of the axilla had not become diseased, I gladly availed myself of this the first opportunity I have had of trying the effect of the inhalation of ether; and, it being the first time it has been used in this town for any capital surgical operation (although Mr. Tibbs, the dentist, had succeeded with it for the extraction of stumps of teeth), I invited the following members of the profession to be present:—Dr. Smith, Mr. Eves (one of the surgeons to the Hospital here), Mr. Dalton, Mr. Orrell, Mr. Fagan, Mr. Tibbs, surgeon-dentist, Mr. Gregory, and Mr. Peart. The great importance of this invention, as regards operative surgery, renders it necessary that surgeons should make known all the cases that come under their observation; and on that account I have given the full notes of this one. The inhalation of the sulphuric ether was kindly managed for me by Dr. J. Smith, one of the physicians to the Hospital and Dispensary here, who administered it with a simple gum-elastic tube, with an ivory mouth-pipe, attached to a damp bladder, placing in it about two ounces of ether, and putting

the bladder in warm water. The ether used was Howard's sulphuric, which had been washed and redistilled by Mr. Smith, chemist, of this town. At first, we had some trouble to persuade the patient to inhale properly; but after a short time, and becoming herself anxious to have the operation performed, she did so vigorously, and the ethereal effect was produced in about four minutes: from that time she fell back in bed; the arms dropped to her side; the pupils very much dilated; eyes turned up to the orbit, and sensibility apparently gone. I commenced my operation, which was performed by two elliptical incisions of about four inches in length, extending fully round the nipple to the border of the axilla, dissecting out the disease, one small artery having to be tied. The operation occupied about two minutes. After the lapse of nearly six minutes, the poor creature recovered her consciousness; and, when asked if she had felt any pain, said, "None whatever; you have not done the operation: you are only deceiving me;" and we had some difficulty to persuade her to the contrary: in fact, she would not credit it until I gave her the breast to look at. Since the operation, she has been questioned by several parties how she felt, and her answer is, "It was a sensation—no pain of any kind;" and she could not now even believe the disease was cut out with a knife.

The patient had not any bad symptoms from the ether, either during its inhalation or afterwards. The pulse rose from 80 to 125. She complained shortly after of a little pain in the region of the heart; but this soon left her. One wine-glassful of brandy and water was given her after the effect of the ether had passed off; and at night the pulse was soft, 100; patient very tranquil; skin moist; complains of some difficulty in voiding the urine; a sedative draught was given her. All the gentlemen present, whose names I have deemed it advisable to give, felt perfectly satisfied that the operation was performed without the slightest sensation of pain or uneasiness of any kind, and expressed themselves highly gratified with the result.

On reviewing the cases of operations already performed under the influence of ether, we cannot regard the invention in any other light than as one of

the greatest boons ever offered to operative surgery in alleviating the great distress of body and mind which patients always suffer when informed they must undergo a surgical operation; and it must now become the duty of every surgeon to watch well the progress of this painless remedy, and judge for himself whether or not it is capable of being brought into very general use. I am only sorry the talented inventor should have clogged it with a patent, which I trust will never be allowed to stand: he deserves a far higher reward than that of turning it to a mere mercantile production.

I cannot close this article without publicly thanking Dr. Smith for the trouble he has taken in trying the effect of the ether on healthy subjects preparatory to giving it to this patient, and the judicious manner in which he administered it for me.

Albion House, Cheltenham,
Jan. 1847.

ASPHYXIA NEONATORUM.

M. DEPAUL has written a very elaborate paper on the subject of artificial respiration, as a means of resuscitating still-born children. He instituted a series of experiments on the dead subject, with the view of determining the amount of danger of injuring the lungs by the insufflation of air. He satisfied himself that this danger is almost an imaginary one, since, even after the lungs were removed from the body, it required several most forcible insufflations, far stronger than would ever be made in the case of a still-born child, to produce rupture of the pulmonary vesicles. On the other hand, he was struck with the great force needed thoroughly to inflate the lungs, while their resiliency was sufficient to expel the greater part of the air. He found, moreover, in many cases where children had died suddenly after breathing for several hours or days, no other morbid appearance than an unexpanded condition of a large portion of the lungs. With reference to the mode of practising artificial respiration, he condemns the mere blowing into the mouth as inadequate, and recommends the use of a tracheal tube. He is of opinion that there is more danger of failing from imperfect insufflation than of doing harm by its too forcible performance. It is of importance, likewise, that it should not be suspended on the first sign of breathing, but continued until the child cries loudly, and respires well.—*Dr. West's Report on Midwifery, 1845-6.*

MEDICAL GAZETTE.

FRIDAY, FEB. 12, 1847.

THE mistaken zeal of romancists and historians which has recently been so extremely productive of evil in spreading a knowledge of the art of assassination by poison among all classes of the community, has, we fear, been exercised with equal activity, and with an equally pernicious tendency, by another tribe of very assiduous propagators of pseudo-science. We allude to that class of modern utilitarian philosophers who display their anxiety to establish a free trade in all descriptions of useful and useless knowledge, by doling out natural philosophy by the shilling's-worth, and by imparting a comprehensive insight into the mysteries of the occult sciences in lectures which are very considerably and judiciously limited to the brief period of half an hour. We are informed that, at the time when the monstrous case of Tawell, the assassin by prussic acid, was still before the public, the chemical professors of a well-known "Gallery of Science" in this metropolis were daily engaged in imparting to their miscellaneous audiences a lecture on the art of poisoning, entitled, "Tests for Poisons and their Antidotes;" at the same time adopting the delicate expedient of inserting the name of the popular poison of the day, PRUSSIC ACID, in extra-sized letters upon their advertising placards. If any of the ignorant still remain unacquainted with a knowledge of poisons, the "learned" assuredly are not chargeable with any remissness in neglecting to impart a sufficient amount of the necessary lore. It is, however, by no means a favourable evidence of the "progress" of our age that but a single

step should be required to carry the seekers for occult knowledge from the lecture-room to the gallows or to the grave. We regret to say, that the Gallery in question has not been by any means the only place in which mixed London audiences have recently been indoctrinated in the elements of toxicology. Scarcely twelve months have elapsed since we were present at a comprehensive popular lecture on chemistry, in which the entire detail of the nature and powers of hydrocyanic acid was practically imparted by an able chemist to a large concourse of ladies and non-professional gentlemen. Although we are confident that the conductors of the valuable institution in which this circumstance occurred, as well as the lecturer himself, were merely chargeable with an oversight in permitting such an exposition to take place, we cannot refrain from insisting upon the necessity that scientific men should exercise the most conscientious vigilance in guarding against the promulgation of destructive knowledge among the community at large. The chemical philosopher holds within his grasp an extremely powerful means of detecting guilt as well as of shielding innocence, and no trust can be more fatally abused than that in which the possessor of good knowledge guards his treasure so remissly as to permit the designers of evil to pluck it from his grasp, and to employ it for the furtherance of their own destructive plans.

In a recent notice of a popular work of fiction, in which the subject of poisoning has been far too freely handled, we have endeavoured to display the utter fallacy of the opinion, that revelations of this kind have any influence whatever in deterring evil-disposed persons from the commission of crime, or that they can by possibility have any other tendency than

that of suggesting, extending, and strengthening the sway of guilt. If it has been proved, as it unquestionably has, that the publication of novels and dramas founded upon the histories of certain capital offences, such as burglary and robbery on the highway, has been almost immediately productive of a vast increase of these offences,* then it surely will not be argued that it is either wise or right to place continually before the public eye a ready art of murder, which requires only a reckless purpose and a cowardly subtlety for its perpetration. And since it has been well ascertained that the formalities of public trials and executions, so far from having the effect of deterring men from crime by their solemn and terrifying displays† positively exercise an entirely contrary influence, we are compelled to decide that the serious morals which the concoctors of our felon literature append to their works afford no counteraction whatever to the injurious details of those performances.

If it could be maintained that the publication of the details in question must certainly have the effect of awakening the attention of the Legislature and of the public to the necessity of employing every imaginable

precaution to check the increase of crime, a certain degree of weight would of course attach to such a doctrine but the following statement, which, not long since, went the round of the French and English press, is but one of many proofs that the moral of a criminal detail affords but a very uncertain and precarious caution.

"Madame Laffarge.—The heroine of the romantic trial, so notorious a few years ago, has for some time been in a state of ill-health that prevented her quitting her cell. On Sunday last, however, she went, in the penitentiary dress, to hear mass in the prison chapel. Madame Laffarge, having asked as a favour to be allowed to devote herself to the service of the sick, *she has been charged with the superintendence of the infirmary.*"

We have not heard that the above appointment has been followed by any injurious consequences, but it is certainly not a little singular that the trust of administering medicines to the sick should have been confided to a person sentenced to imprisonment for life upon a charge of poisoning of the most heinous description; and this, too, among a people whose intelligence has been sharpened by the recent publication of Dumas's "Celebrated Crimes," which, we believe, record the fact that the Marchioness of Brinvilliers obtained her proficiency in the art of poisoning by drugging the medicines of the unfortunate patients at the Hôtel Dieu, whom she volunteered to attend under a pretext of charity.

It is, however, to be seriously apprehended that the constant revival of the mischievous details under consideration will gradually, and but too surely, have the effect of undermining that social confidence upon which the happiness of communities and families so mainly depends. There cannot be a doubt that, during all the periods at which the crime of assassination by poison has been especially rife, the

* "Sir John Fielding one day observed to Hugh Kelly, during one of the successful runs of the 'Beggar's Opera,' that he expected a fresh cargo of highwaymen; adding, that on every successive season of its performance, from the first representation of the piece, there had been a proportionate number of highwaymen brought to his office, as the books would testify. Kelly had the curiosity to look over them, by Sir John's permission, and found the assertion literally correct." A similar influence is known to have been recently produced among the thieves of London by a literary and theatrical revival of the history of the notorious Jack Sheppard.

† It was proved, a few years since, that by far the larger proportion of the criminals found guilty of capital offences in this metropolis had been in the habit of attending the executions of malefactors. It is well known that, in former times, the progress of a robber or murderer from Newgate to Tyburn generally assumed the character of an ovation rather than of a penance. And it is now very generally believed that the solemnity of a public trial has a decidedly flattering effect upon the morbid vanity of the lower classes of villains.

deaths of many persons who have expired from natural causes have been fully attributed to the machinations of others; and, while many an innocent person has passed through life with the unjust stigma of murder blighting his reputation and destroying his peace*, not a few guiltless lives have, in ancient times at least, fallen sacrifice to a similar misconception. The latter result is scarcely likely to occur in the present day, under our improved system of judicature; but there are ample grounds for believing that the former error is becoming dangerously prevalent, and medical men and coroners cannot be too anxiously upon their guard to employ all their vigilance, and all their means of investigation, for the purpose of avoiding or removing misconceptions of so fearful a nature.

* We regret to find that the able compiler of a report of the trial of the parties concerned in the murder of Sir Thomas Overbury has endeavoured to fix upon Sir Theodore de Mayerne, the learned physician of Henry the Fourth of France, James the First of England, Charles the First, and Charles the Second, crimes in which it is neither clear nor probable that he had any participation whatever. It is hinted that Mayerne was employed by King James, not only in the poisoning of Overbury, but also in the supposed murder of Prince Henry. The utter improbability, however, that the timid and cautious James would have permitted the attendance of Mayerne upon himself, during his last illness in the year 1625, had the alleged crimes been consummated by the physician under his direction, in the years 1612 and 1613, has been entirely overlooked. The fact upon which so much unnecessary stress has been laid, that the leaves of Mayerne's manuscript case-book, still preserved in the British Museum, which are supposed to have contained an account of Prince Henry's illness have been cut out, probably by Sir Theodore's own hand, does not appear to us to afford even the slightest suspicion of Mayerne's guilt; for, setting aside the absurdity of the idea that, even if poisons had been administered by the physician, their administration would have been recorded in this book of prescriptions, it appears to us to be a matter of the greatest probability that the pages in question were removed by Mayerne for the purpose of being laid before the Council or any other tribunal, which might require evidence respecting the nature of the Prince's illness, and the remedies employed by his medical attendants. Similar detached papers were sent in by Mayerne at the trial of the murderers of Sir T. Overbury, and it is easy to perceive that the owner of a volume which contained ample accounts of the cases of nearly all the most eminent personages in the realm, would have felt extremely unwilling to have committed the unnecessary folly of presenting such a record for the inspection of any court.

The necessary measures for the effectual restraint of the daily increasing crime of poisoning in this country have, we regret to say, never been effectually put in force either by the government or by the medical profession. By some extraordinary and most inexplicable oversight which might almost be regarded as a species of destructive fatality, no really stringent measures have ever been adopted in this country for suppressing the sale of poisons to the public at large. A practice the discontinuance of which could have no imaginable influence either in checking the progress of useful arts, or of interfering with the great privileges of the people, but which is, on the contrary, known to be the means of producing, year by year, a fearful amount of the most aggravated crime, and an enormous destruction of human life by suicide and murder, has been allowed by our "wise and humane legislature" to prevail among us for at least four centuries; and to continue, even at this very day, as prevalent and as mischievous as it ever was. It is not in this country as in Mantua of old that—

"Such mortal drugs we have, but Mantua's law
Is death to any he that utters them."

On the contrary, no town in England can be found in which some well-fed druggist will not, for the sum of two-pence, furnish the murderer with the means of destroying one hundred individuals, providing the retailer's conscience be previously salved by the old and transparent pretext that the deadly material is required for the purpose of destroying rats or mice! We are happy to find that, at the end of last month, several petitions praying the Legislature to place a restriction upon the indiscriminate sale of many deadly poisons, were lying in different parts of the metropolis for the signature of the public. The news-

papers have just announced* the conviction in a severe penalty of a druggist who was found to have sold some poisonous mixture to a sick person by mistake. Cannot the same law be made to extend to the criminal who, for the base reward of pence, is discovered to have become the ready agent of the suicide and of the assassin by destructive drugs?

The remissness with which the coroner's office is still, in many instances, performed, has, we fear, also proved a very serious means of increasing the daring of criminals, and of engendering a feeling of insecurity among the well-disposed portion of the community. So long as cases are, month after month, coming to light in which the inattention or inability of non-medical coroners has allowed the crime of homicide to pass for a time undetected, or to be gravely suspected in instances where death has been due to natural causes,—the criminal will continue to pursue his destructive practices with a feeling almost amounting to contempt for the boasted vigilance of the law. In the present day, when the symptoms and morbid appearances of poisoning are so well and so generally understood by the profession, it must always be considered that, whenever a crime of this description passes wholly undetected in England, it escapes the notice of the surgeons, and of the law officers, only in consequence of the most culpable inattention and neglect.

We are anxious to call upon our professional brethren to exert the power which they claim in society in counteracting and suppressing the pernicious influence which an increased acquaintance with the action of poisonous drugs is now exercising throughout the land. We do not consider that the subject is one which the medical

man will do well to bring under discussion in general society; but he, in common with all persons of right and humane feeling, is bound to take away every measure in his power to limit the general circulation of the pernicious class of works to which the attention of our readers has been directed; and to assert, upon all fitting occasions, his conviction, not only of their immoral and dangerous tendency, but also of their absolutely delusive character. It is right that the public should be aware of the fact that the attention of the profession is now completely awakened to the detection of secret poisoning; and that most of the obscure instances of this crime, handed down to us from early periods, in which, with all the moral evidences of guilt, the criminals escaped, from the insufficiency of medical evidence, would doubtless, had they occurred within the last quarter of a century, have been rendered perfectly clear by the researches of the physician and the toxicologist. However defective the law at present may be, the period which has been chosen for the revival of the crime of poisoning is the least favourable which could have been selected for the concealment of that offence. Chemistry is rapidly approaching the condition of an exact science, a competent acquaintance with morbid anatomy is now almost universally possessed by the members of our profession, and it is necessary the ignorant should learn that whatever infamous devices they may employ against the lives of others, are fully open to detection by every well educated surgeon in the land.

We cannot close these articles without making an appeal to the good sense and right feeling of those authors and publishers, to whose mistaken efforts to enlighten and to interest the public, the diffusion of a

* Times, Feb. 4.

great deal of injurious information respecting the offence under consideration has been unquestionably due. Should it even be conceived for an instant that the whole of the arguments which we have brought against this class of works have been exaggerated or erroneous, — will any humane or well-educated man in future venture to incur the possible risk of suggesting or furthering the destruction by assassination or suicide of even one single human life, where the alternative before him is—the publication of certain questionable doctrines, or the renunciation of certain pecuniary profits? It is to be remembered that such profits can be in no case very considerable, for it is almost impossible to conceive that, had the various authors who have from time to time expended their literary ingenuity in the creation of the pernicious literature with which the shelves of our circulating libraries are at present crammed, devoted their talents to a more beneficial style of writing, either their reputations or their fortunes could possibly have suffered.

We are assured, however, that we have by no means overstated the dangerous tendency of this class of writings, and we are convinced that no author can in future continue to put them forth without feeling that, in doing so, he panders to a base and pernicious taste, and so contributes to the diffusion of a vast social evil.

SPONTANEOUS FRACTURE OF THE LEFT PARIETAL BONE.

Dr. Götz relates a case of the spontaneous fracture of the left parietal bone during a natural but tedious labour, in which the head was five hours in the pelvic cavity, although the pelvis was well formed. There were three fissures in the bone: one running into the sagittal suture; one to the anterior inferior angle; and the other to the middle of the anterior edge of the bone. The child was still-born; much blood was effused under the scalp, but none into the skull.—*Dr. West's Report on Midwifery, 1845-6.*

Reviews.

Practical Remarks on Near Sight, Aged Sight, and Impaired Vision: with Observations upon the Use of Glasses, and on Artificial Light.
By WILLIAM WHITE COOPER, F.R.C.S.E., Senior Surgeon to the North London Ophthalmic Institution, &c. 8vo. pp. 216. London: Churchill. 1846.

WITHOUT apparently aiming at originality, Mr. Cooper has succeeded in bringing together a considerable number of practical and useful facts illustrative of the prophylactic and palliative treatment of defective vision, as depending upon some of the most frequent chronic lesions to which the eye is liable; and although, in the course of the work, certain questions are discussed which do not at all fall within the comprehension of the generality of non-medical readers, we consider that the author has acted wisely in recommending his treatise to the attention of the public, as it contains much important and clear information respecting the means by which the ill effects of various habits and employments upon the organ of sight may be avoided or mitigated, and as it explains away several popular errors which have had much to do with the production and aggravation of ophthalmic lesions.

The first chapter of the work is devoted to remarks on light, and on the anatomy and physiology of the organ of vision. The second contains a description of the pathology of myopia or near sight. The following is a remarkable case of imperfect congenital cataract which was for many years mistaken for aggravated myopia.

"The patient, a gentleman thirty years of age, in consulting me" [this case appears to be given as a quotation, but the authority is not mentioned,] "respecting his sight, states, that he has been exceedingly near-sighted from childhood, and, acting under the advice of a medical man, but without deriving benefit, that his sight is decidedly getting worse. Upon his attempting to read tolerably large type, he holds the book very near to his eyes and turns his back to the window,—that at the same time he may illuminate the object, and keep his eyes in the shade. It is with difficulty he makes

out even a few words, saying that the letters appear confused and misty. On examining the pupils when under the influence of light, I find them contracted to the size of mere pin-holes; small, however, as the pupil is, beyond it I perceive something grey. To ascertain the nature of this, I put the eyes under the influence of atropine, and then have a distinct view of a cataract, greyish and jelly-like, obstructing the central portion of each pupil, but allowing, while the pupils are dilated, of the access of light all around. Through this space, my patient, for the first time in his life, sees distinctly. All objects appear to him to have undergone a transformation as if they had been touched with a magician's wand. Upon looking at a mirror, he discovers for the first time that his eyes are blue. Colours appear immeasurably brighter than he had ever imagined, and though the day is cloudy, he expressed much surprise at the brightness of the light. The glory of the sun he has yet to see. This morning he first discerns the features of the members of his family, and it is highly interesting, and not a little touching, to observe his feelings, and the surprise he evinces at the erroneous impressions which he had formed, for, as he observes, 'Until now I have never seen like other people.' It is a satisfaction to me to be able to state, that by a very trifling operation, his newly-acquired powers of vision have been rendered permanent."—(p. 51-2.)

It is certainly remarkable that any medical practitioner should have mistaken the very severe defect in vision which existed in this case for ordinary myopia, but we apprehend that such errors in diagnosis are of by no means frequent occurrence. Some cases of myopia dependent upon loss of power of adjustment to distance also deserve careful perusal. The following is a good example of this temporary lesion.

"A gentleman, aged 19, consulted me December 3d, 1845. He stated that for three months he had been almost incessantly engaged in drawing plans, sections, &c. of railroads; that his sight, which had been excellent up to that period, had in consequence been so much impaired that although he was still able to write and draw at the ordinary distance, he could not distinguish the features of persons on the opposite side of a street, and he was much troubled with muscæ volitantes in his left eye. He had ascertained that with the assistance of glasses he could see perfectly well, and his object in calling upon me was for advice as to the description of spectacles that would be proper. My advice to him was on no ac-

count to use glasses, but to go into the country and give his eyes perfect rest by abstaining in toto from the pursuits upon which he had been recently engaged. An alterative course of medicine was prescribed, and he was directed to apply a blister over the left brow, and to repeat it three times, with an interval of a week between each application. My patient called again at the expiration of a month, and stated that his general health was much improved, that the muscæ had nearly disappeared, and that there was a decided amendment in his vision. He was encouraged to pass another month in the country, and to exercise his eyes freely upon distant objects. By the last accounts he was still in the country, had been taking much exercise, and stated that his sight was nearly restored."—(p. 62-3)

The chapter on presbyopia contains illustrations of that defect as occurring in young subjects either as a chronic or temporary defect; as the precursor or sequence of myopiæ, or as appearing in combination with ptosis. The following is a striking example of congenital presbyopia.

"An intelligent girl, eight years of age, was recently brought to me for an opinion. Her grandfather stated that she had always been remarkable for holding her book and work at a considerable distance from her. Upon examination, it appeared that the distance at which she held her book when reading was twenty inches; nearer, she could not see distinctly. When threading a needle, she held it literally at arm's length. Her vision for distant objects seemed to be excellent, and there was nothing unusual in the appearance of her eyes. A double convex glass, of thirty inches focus, enabled her to thread a needle at twelve inches distance; and with a lens of twenty-four inches form, she was able to do so at eight inches. Concave glasses rendered vision indistinct. Her grandfather stated, that each of her parents required glasses at thirty years of age. The child was recommended to abstain from glasses, and there is good reason to believe, that as she grows older, and her eyes are more employed upon near objects, the distance of the point of distinct vision will decrease."—(p. 86-7.)

Mr. Cooper's observations on the use and mode of selecting glasses are judicious and explicit, but we can only afford space for the following paragraph.

"Great judgment and discrimination are required before giving a decision as to the propriety of a patient having recourse to spectacles, and many points should be borne in mind before assenting to their use. We

should first satisfy ourselves that the impairment of vision does not arise from diminished sensibility of the retina, and that the case is not one of incipient amaurosis: if it be so, the temporary comfort occasionally afforded by the aid of glasses will be purchased at the price of more speedy extinction of vision; and we discover, when too late, that measures very different to those recommended would have been the means perhaps of rescuing the individual from the horrors of blindness. If the case is supposed to be one of myopia, we should carefully ascertain that the defective vision arises from an alteration in the powers of the refractive media, and is not the consequence of the eye having lost the power of adapting itself to the forms of distant objects. In the latter case we should commit a grave error in recommending glasses, for, as I have explained elsewhere, their employment is absolutely injurious."—(p. 121.)

The author objects very strongly to the employment of blue or green glasses for the purpose of screening the eyes, as these have a tendency to blunt the sensibility of the retina. "It is on this account that the neutral tint glasses are to be preferred: from being, as the name implies, of no definite colour, they screen the eyes from all colours alike, and produce, in sunshine, the effect of a cloudy day, which is exceedingly grateful to weak and irritable eyes.

The author's remarks upon the best mode of employing various kinds of artificial lights are very judicious, and are fully deserving of attention at the present time, when nearly every household is imitating the example of Aladdin in exchanging his old lamp for a new one. After discussing the respective merits of gas lights, and of camphine, solar, and mono-chromatic lamps, *et hoc genus omne*, Mr. Cooper decides that, upon the whole, a person who employs his eyes much by night cannot do better than use wax-candles, the light which they afford being remarkably pure and agreeable to the eyes, and being sufficient for the process of illumination without inducing fatigue of the organs.

We have read Mr. Cooper's little treatise with much interest, and have great pleasure in recommending its perusal to our readers.

The London and Provincial Medical Directory, 1847. 1 vol. 8vo. pp. 288, 362. London: Churchill. 1847.

IN a recent number we gave a short notice of the London Medical Directory. We have now the complete work before us, namely, the London and Provincial Medical Directory, conveniently bound in one volume.

The Provincial Directory is a first attempt to supply a great desideratum to the medical profession, *i. e.*, a complete list of all the qualified practitioners of England and Wales beyond the bounds of the metropolis. The editor must have experienced considerable difficulty in collecting and arranging the names, which here cover more than three hundred pages of small type. He has derived some assistance in this labour from the lists of the Registrar-General; but, on the other hand, he has been thwarted, not merely by a nefarious attempt on the part of others to appropriate his labours, but by the neglect and indifference of some practitioners in making the returns. Nevertheless, we have looked for the names of a large number of friends and correspondents, and have only found one omission and one defective description—the fault, in each case, probably resting with the individual. The importance and utility of a work of this description is so obvious as to render it scarcely necessary for us to recommend it to our readers. All are interested in knowing who are of the profession and who are not; and we trust that in future years that aid will be given to the editor which is so necessary for a proper execution of his design. Every practitioner should not merely send his name and address, but his qualification and the *date* of his diploma. If the names of certain provincial practitioners are omitted in the present list, we believe that they have only themselves to blame; but, from the examination we have made of it, it appears to us to be remarkably accurate.

DUTIES OF A MEDICAL PRACTITIONER.

THE life of a sick person can be shortened not only by acts, but also by the words or the manner of a physician, and that most unintentionally on his part. It is therefore his sacred duty to guard himself carefully in this respect, and to avoid all things which have a tendency to discourage the patient and depress his spirits.—*Hufeland*.

Proceedings of Societies.

MANCHESTER PATHOLOGICAL SOCIETY.

Feb. 4th, 1847.

Detection of Sugar in the Expectoration of Patients affected with Diabetes.

DR. FRANCIS presented to the Society a specimen of sugar which he had obtained, a few days previously, from the expectoration of a man the subject of diabetes mellitus.

The patient, aged 25, for upwards of a year suffering the ordinary symptoms of this disease, and at present much wasted in flesh, had, during the last six months, shewn signs of advancing pulmonary phthisis. The expectoration latterly had amounted to little less than 24 ounces daily, and, on the day which furnished the specimen submitted to examination, had even exceeded that quantity. It was composed of an abundant white, frothy, tenacious mucus, holding in suspension little rounded masses of opaque yellow material.

In order to the detection of sugar, the expectoration was, first of all, treated freely with strong alcohol, which coagulated much of the albuminous matters. Distilled water was then added, and, after agitation and digestion for a short time, the whole was thrown upon a filter, and a clear watery fluid readily passed through.

A small portion of this fluid reduced the protoxide of copper when tested after the manner recommended by Trommer, and another portion underwent fermentation over mercury.

The remainder was evaporated in a water-bath to dryness, the residue broken up into fragments, and digested for several hours in alcohol, which was then filtered. The alcoholic solution thus obtained was of a yellowish tint, clear, and decidedly sweet to the taste. On evaporation, it left the considerable quantity of sugar now produced to the Society, and which will be found partly crystalline, of a rich sienna brown colour, strong honey-like odour, and intensely sweet taste.

A fluid ounce of the expectoration, after dilution with water, yielded by fermentation a trifle more than $2\frac{1}{2}$ cubic inches of carbonic acid, which would be equivalent to $2\frac{1}{2}$ grains of sugar, or 50 grains to the imperial pint.

The urine passed at the time of the examination contained sugar; its specific gravity was 1032, and its average standard for some days had been about 1035. The quantity passed was much less than formerly.

Dr. Francis had detailed at length the account of the process he had used, because, so far as he knew, the presence of sugar in

the expectoration of diabetes had not previously been sought; at any rate, he could find no allusion to the subject in the Sydenham Society's edition of Simon's Animal Chemistry, which, with the notes of its accomplished editor, may be assumed to have brought our knowledge in such matters up to the present time.

In addition to the above case, he had, within the last two days, had the opportunity of examining the expectoration of another man who was under treatment two years ago with diabetes, and who, in addition to this, is now far advanced in phthisis. Here the expectoration was more scanty, and consisted of purulent matter, rendered tenacious by an admixture of rust-coloured secretion from a little local pneumonia. In this case an ounce of sputa contained so much as about seven grains of sugar.

It might be found, he thought, when closer attention came to be given to the subject, that there were other organs than the kidneys habitually playing an active part in the removal of the sugar which was accumulating in the blood during the progress of diabetes. There were, at least, some grounds for believing such might be the case from the results just detailed, and, if so, the quantity of sugar escaping in the urine could not be viewed as an absolutely safe index to the quantity formed in the system, unless taken in conjunction with other means of its elimination.

The cases might further be looked upon as furnishing an argument, if further evidence upon the subject were necessary, that the kidneys play no part in the formation, but merely in the separation from the blood, of the sugar.

Raspberry-like Nævus.

MR. THOMPSON, of Stalybridge, presented four nævi, removed by ligature, which were interesting by reason of the proof they afforded of their hereditary character. One was larger than a walnut, and three equalled raspberries in form and size. In colour they were bright blood red, and their surfaces resembled exactly the raspberry in appearance.

They were removed from the right shoulder of a very healthy woman, aged 44 years, who had borne eight children. She first noticed the large nævus in her eighteenth year. It was then like an ordinary brown mole, possessing very little sensibility. After a time it increased in size, and at length became very sensitive and painful, and acquired the appearance described. It was attached to the skin by a peduncle about a quarter of an inch in diameter, which was occasionally excoriated, and discharged a very offensive fluid.

This woman's daughter, maternal grand-

mother, and great grandfather, have all had similar aevi.

Enlarged heart—aortic valves permanently open.

Dr. Watts exhibited the diseased parts in a case of permanently open aortic valves. The heart, 25 oz. in weight, was hypertrophied in all its parts; and on the external surface of both ventricles were several white spots. The lining membrane of the left auricle was thick and opaque; the mitral valve was likewise opaque and thicker than proper, but smooth, full-sized, and physiologically perfect as a valve. Two of the aortic valves were ossified and stiff, the third was supple though opaque and thickened; these valves could not be made to close the aperture, but left, even when most reflected, a permanently open space between them, three-eighths of an inch long by one-eighth broad. The aorta from its origin to the extent of an inch was converted into a bony ring; beyond this point the vessel was not diseased. The lungs were congested and oedematous; the left pleura was every where adherent; the right pleural sac contained a considerable amount of serum. There was much serum in the abdomen. The liver was congested and very oedematous. All other organs were free from disease.

The patient, John Marryatt, 66 years of age, never had rheumatism, but for twenty years had been liable on any excitement to palpitation of the heart, though otherwise most healthy. Twelve years ago he had oedema of the feet and legs, which soon disappeared. Three years ago he became decidedly dropsical, and from that time he had been shorter of breath than usual, and constantly affected with the palpitation. He came under treatment for dropsy, 14th April last; hypertrophy of the heart and imperfect occlusion of the aortic valves were then diagnosed by Corrigan's method, and infusion of digitalis with aconitum and diuretics prescribed. The dropsy rapidly disappeared, and the man greatly improved in health during the succeeding summer and autumn. Early in winter the dropsy began again to appear, and during the cold weather, towards the middle of December, the symptoms of congestion of the heart and lungs became alarming, and on the 17th he died.

In directing attention to the beneficial effects of digitalis and aconitum in this instance, as opposed to the opinion of those practitioners who decry the employment of lowering means of treatment in heart-disease with permanently open aortic valves, Dr. Watts further observed that the proposed rule for the exclusion of these remedies is based rather on physical than on vital principles; and so far from admitting of universal application, it is frequently in-

admissible. Notwithstanding this lesion, inasmuch as it constitutes an hydraulic imperfection, may impart a degree of physical weakness to the heart, calculated to render it generally less able to support depressing influences than in the healthy state, still the same effect may equally result from a variety of serious valvular lesions; being in no respect peculiar to permanently open aortic valves alone. The truth appears to be, that, like as in the case of other lesions, heart-disease, with imperfectly occluded aortic valves, requires, according to circumstances, sometimes a sedative, sometimes an exciting, and in the same point of view sometimes a neutral treatment. The action of the heart is occasionally much too powerful in this description of cases, and the patient requires and well bears the depressing remedies. In Marryatt the organ was not only very large, but during the month of April it acted with excessive force, and dropsy by expression or arterial plethora resulted. The equilibrium of the circulation having been reestablished, however, by lowering the heart's action to the correct standard, the dropsy rapidly disappeared, and all the symptoms were wonderfully alleviated.

On the occasion of the fatal attack the condition of the heart was very different, and the dropsy resulted from other causes. The man having contracted pulmonary catarrh, and being unavoidably exposed to the depressing influence of cold in severe weather, the circulation of blood became obstructed, the lungs congested, and the heart enfeebled and engorged. The curative indications were thence entirely reversed; the medicines useful on the previous occasion would have acted injuriously; another kind of treatment was required, but having sought for medical aid too late, he died before remedies could be applied.

Eburnation of right Tibia and Fibula.

Mr. Dumville presented the tibia and fibula of a man, aged 37 years, whose limb he amputated four years ago. The extremities of both bones were carious, and their shafts solidified by deposition of ossific matter within the cancellated structure, which was so completely obliterated as to give it the compact appearance of ivory. The external surfaces of the bones were unusually rough and uneven, and at several points joined to each other by bony union.

The patient, after having been exposed to cold and want in early life, was seized with inflammation of the right ankle, which, after suppurating, continued to discharge for years. The inflammation at length extended upwards, being attended with intense suffering.

Two years later the heads of the tibia and

fibula became involved in the disease; pus was discharged by abscess, and, the inflammatory action continuing, produced extensive caries of these parts. The thigh was amputated after these sufferings had been endured more than twenty years, and the man is now in excellent health.

It was remarked by Mr. Dumville that the patient was originally of very sound constitution, without trace of scrofulous taint; and that the disease appeared to have arisen from exposure to cold under great physical deprivations.

Medullary Sarcoma of the right arm in a child eighteen months old.

Mr. Hopwood, of Stalybridge, presented a coloured drawing of medullary sarcoma in the right upper arm of a child. The tumor was lobulated, and measured in circumference fourteen inches, the girth of the opposite arm being only five inches. From its upper part a distinct lobule arose of a rich crimson colour; it projected three-fourths of an inch from the general surface of the tumor, and had on its summit a small abrasion which discharged a thin ichor.

When eleven months old, a small tumor was observed on the upper arm of the child. In about three months time it had acquired the size of a small egg, situate at the outer part of the arm a little above the elbow. The tumor firmly adhered to the humerus and deep-seated parts, but not to the skin.

Six weeks from this date, the tumor had so greatly increased that it extended nearly to the shoulder, encircling more than half of the arm. It was distinctly lobulated, and was firmly adherent to the surrounding skin. The axillary glands were now also involved; the child did not appear to suffer much from pain. About two months before death a dulness on percussion was noticed over the roots of the lungs, accompanied with wheezing respiration; the glands in the left axilla became enlarged. Soon after this there was great fulness, with firm resistance in the right hypochondriac region and scrobiculus cordis, and subsequently a circumscribed tumor, as large as a small orange, appeared in the hypogastric region. In the progress of the case the breathing gradually became more difficult, the tumor increased to the size of a child's head, and reached to the umbilicus. There was no oedema of the arm, and but little emaciation until two weeks before death, which happened in the child's eighteenth month, *i. e.* seven months after the disease was first noticed. Unfortunately no post-mortem examination was permitted. There could be no doubt, however, of the malignant character of the disease, nor that besides the arm and glands in both axillæ, the bronchial glands, liver, and parts

about the ovary or uterus, were affected with the same degeneration.

Hard Tumor of Uterus: Cancer of Ovary.

Dr. Renaud brought for presentation an ovary affected with cerebriform cancer, which occurred in connexion with an uterine tumor that was diagnosed as one of the variety known as fibrous, hard, or satinwood. The uterine tumor had so entirely undergone the process of softening, that the boundary walls and peritoneum alone remained, whilst the entire substance was reduced to a pul-taceous mass which flowed out spontaneously on the walls being punctured. Some of this broken-down matter protruded through the attenuated and partially destroyed os uteri, and some of it had been discharged during the latter days of the patient's lifetime.

The left ovary was not discovered amongst the mass of disease, which had contracted some adhesions with the surrounding peritoneum.

The right ovary was enlarged to the size of a small apple, was cream-coloured, and very vascular. On section much creamy fluid oozed out. The centre of the gland was occupied with a nuciform and cheese-looking tuber, which was enclosed within a fine membrane; the remainder of the ovarian stroma was converted into a mass of cerebriform cancer.

The microscopical appearances were:—in the ovary, nucleated cells, many of which were candate and characteristic enough of medullary cancer: these were found in every part of the ovary.

A portion of broken-down substance from the uterus displayed a number of granulated particles, and aggregation cells, containing globules of fatty matter, more or less large. The subject of the disease was a widow lady, *stat.* 60 years. The more marked symptoms had existed 18 months; but the predisposing causes appeared to have been in operation since the decline of the catamenial functions, eight years ago.

The case is interesting in two points of view: first, by reason of the solid integrity of the uterine tumor having undergone such a complete process of softening; and second, the presence of such marked malignant disease in the ovary appears to convey an indirect testimony of the doubtful nature of the hard tumors of the uterus. So long as the true pathology of these growths remains undetermined, every fresh case has its proper value. It certainly becomes a question whether these uterine tumors are exclusively of a mild and non-malignant order; or, whether at one stage of their development they may be viewed as mild, and merely specimens of diseased nutrition, and at a later period assume all the appearances, and give rise to all the consequences

attendant on genuine malignity. The microscopical demonstration in the uterine tumor simulated those going sometimes along with true fungus hæmatodes of this organ.

SOUTH LONDON MEDICAL SOCIETY.

February 4th, 1847.

CHARLES WATERWORTH, Esq. President,
in the Chair.

MR. COLLAMBELL read a

Fatal Case of Anæmia.

The patient, a delicate leuco-phlegmatic female, was 23 years of age, having been in a debilitated state for some time. She was attended by the author in 1842, during labour at the seventh month of pregnancy; delivery was followed by puerperal peritoneal neuralgia, with diarrhoea and excessive prostration, but recovery took place under the use of opiates, astringents, turpentine applications, and poultices. In 1843, she had a healthy child at full time, but was reduced by after-hæmorrhage. In the following year she suffered from a diarrhoea, which was followed by extreme debility. In 1845, two months after a severe attack of facial neuralgia, which was subdued by quinine, iron, and good living, she was delivered, after a lingering breech labour, of her sixth child; the detachment of the placenta was followed by alarming hæmorrhage, checked by pressure, cold, &c.: after this, great improvement took place, and she suckled the child upwards of thirteen months; a dragging was constantly complained of at the shoulders, with palpitation and exhaustion, especially in the morning; the supply of milk was abundant; no menorrhagia or leucorrhœa existed. When seen by the author (Oct. 22), her present symptoms were—complaints of excessive exhaustion and faintness, paroxysms of shooting pain extending from the brow, over the head, to the shoulder, aggravated by movement of the scalp; pupils sensible to light; pulse 100, very feeble; constant vomiting, epigastric tenderness, and dry state of skin. Sinapisms were ordered to the nape of the neck and stomach, aperient medicine, and hydrocyanic mixture. On the following day the pain had extended, and was more distressing; constant jactitation was present; deficient milk. Four leeches were ordered to the temples, and effervescing medicines, with an anodyne draught, at night. A better night followed, with greater freedom from pain; the bowels not being relieved, purgative medicines and enemata were ordered. On the following day, after a restless night, with much delirium, her countenance was much shrunken and anxious; there was continual screaming and throwing about of the

arms, with fear of impending death; occasional pain of the head; bowels still confined; abdomen tympanitic; no sickness; breasts flaccid, and free from milk. An enema of castor oil and turpentine was administered, which brought away some fecal matter, and relieved the flatulent distension; the anodynes were continued. A quieter night followed, with less pain of the head, but increase of exhaustion; pulse was 120, very feeble; skin dry, but no sickness; abdomen tympanitic; the enema to be repeated: anodynes when necessary; spirit of turpentine to the abdomen; animal broths and arrow-root at intervals. She was afterwards ordered ammonia, with quinine and Dover's powder. Her state remained much the same for four days, when she became constantly delirious, with shrunken pallid face; continued screaming, on account of pain affecting the entire body; pulse very feeble and quick; tongue red at tip, and dry; abdomen flatulent. On the following day, continuing the same, she was seen by Dr. Lever, when ammonia, with serpentary and good nourishment, were ordered. From this time, however, she gradually sunk, and died two days after without a struggle, sensible to the last.

On careful autopsy 24 hours after death, the only morbid conditions found were, a softened condition of the septum lucidum and walls of ventricles, which latter contained one and a half ounce of clear serum; all the other parts were healthy. The author doubted whether this fluid was of primary or secondary origin. The appearance of the patient was that of one exhausted by loss of blood, prostration of the vital powers being the prominent symptoms from the first; and, taking into consideration her prior history, frequent child-bearing, hæmorrhages, and demands of prolonged lactation, he was led to the conclusion that the symptoms arose from an anæmial condition of the system, and that the vital powers had been so gradually reduced as to be incapable of rallying against the insidious ravages of exhaustion. The author stated, in answer to questions from Drs. Chevers and Hughes, that he had no opportunity of examining the state of the urine: an anæmial bruit had at times been audible.

Dr. CHEVERS considered that, from the prolonged cerebral symptoms, and dry state of the skin, some visceral change might have been suspected: the frequent hæmorrhages and previous unhealthy state were signs of constitutional mischief.

Mr. ROBINSON considered all the symptoms characteristic of anæmia: the leuco-phlegmatic diathesis of the woman rendered her ill able to bear up against the continual causes of exhaustion. The cardiac bruit and the head symptoms also evidenced this.

Dr. MURPHY considered that the meaning of "anæmia" was little understood, if by it was understood mere debility. He believed if patients were placed in a proper position and nourished, death would seldom, if ever, take place. In such a state there appears to be a certain change both in the quantity and quality of the blood. The case narrated might be viewed as one of gastritis in a debilitated constitution.

Mr. HICKS did not consider death from anæmia very rare; and in regard to the condition of the blood, Andral had proved an increase of serum and deficiency of red particles. A cold state of surface was not present always in such cases, and allusion was made to the hot state of the surface, which comes on three or four days after hæmorrhages during labour, and to the occurrence of pain in the head, &c. in cases of overlactation.

Mr. COLLAMBELL considered heat of skin in these cases as due to the reaction which takes place. He viewed his case as one of simple anæmia from loss of blood, while other cases appeared rather of the nature of chlorosis.

Dr. HUGHES did not consider deaths from anæmia rare, and alluded to the hydrecephaloid form of disease described by Dr. Marshall Hall as occurring in children, but which he believed was also met with in adults. Depletory measures injured, while tonics, stimuli, and good nourishment, cured such cases. Could not view the narrated case as one of gastritis, but an inflammatory condition of brain connected with an anæmic state probably existed. The symptoms in these cases are relieved for a time by local depletion, but they soon return, while a stimulating plan of treatment effects a cure. In a case of fever in a boy, followed by hæmorrhage from the bowels, where symptoms apparently of inflammation of the brain occurred, success attended shaving the scalp, the administration of one grain of calomel three times a day, and the exhibition of stimulants.

Mr. HICKS alluded to the diagnosis which may be drawn in these cases from the effects of position, and from observation of the periods at which the greatest aggravation of symptoms occurs. He had found the combination of ammonia and rhubarb, with gentian, chiefly useful. Such cases of debility arose not only from a deficient supply, but from an altered condition of the blood. It was difficult to state the exact state of brain: most likely there was a deficient supply of blood.

Dr. SILVESTER had never found anæmic bruit in these cases. Anæmia was an incorrect term; there being often a larger quantity of blood in so called anæmic cases, but its character was altered. He alluded to the knocking pain of head

where exhaustion existed, as after losses of blood in overlactation. There probably existed some molecular alteration in the tissue of the brain itself, which careful investigation and microscopical examination may hereafter detect: the state of urine might lead to this: in inflammatory affections of the brain phosphates were given off by the urine, but in delirium tremens this was not the case. He remarked, that calves when bled short of death generally die of pleuritic effusion. The bruit above alluded to is not heard in aged people, say beyond the age of forty-eight in the male, except where organic disease exists. These cases are different from chlorotic cases; an altered condition of blood is not sufficient to explain all. He could not see any evidence of gastritis in the case mentioned. Food and medicine often had little avail in these cases, the stomach not being prepared for it. Opium, wine, &c. might be useful.

Dr. MURPHY alluded to the craving appetite, cold extremities, and dimness of sight in these cases, as showing want of power in the heart. Hydrecephaloid might be diagnosed from inflammatory conditions of the brain, by the coldness of head always present in the former, while excess of heat existed in the latter class of diseases.

Mr. ROBINSON objected to this sign as diagnostic, as he had generally noticed an increase of temperature.

Dr. SILVESTER considered our usual means of testing temperature by the hand was very fallacious; a series of experiments with the thermometer would present much surer results, and was much called for. He considered external temperature a guide to any mischief internally.

Some further conversation then ensued regarding the heat of skin present in fevers and pneumonia; the pungent heat present in the latter disease, Dr. Hughes explained, was also met with in renal disease attended with inflammation, and in typhoid fever.

The Society then adjourned.

At the next meeting, Dr. MURPHY will read some observations on Chancere.

PATHOLOGICAL SOCIETY OF LONDON.

Monday, Feb. 1, 1847.

Dr. WILLIAMS in the Chair.

Dr. FULLER exhibited

Two Specimens of Diseased Heart occurring in persons under the age of 20.

CASE I.—George S., aged 16, was admitted into St. George's Hospital on the 9th of December, 1846, under the care of Dr. Wilson. A stonemason by trade, he was attacked, at the age of 14, with rheumatic

fever, complicated, as it appears, by some inflammatory action about the heart. On recovery from this illness, he went again to work, and though ever since subject to dyspnoea and palpitation, increased on active exertion, he continued to pursue his usual occupation up to a week or ten days ago, when, as he began to suffer from wandering rheumatic pains, and from increased dyspnoea and palpitation, he was obliged to take to his bed. His countenance, on admission, was most anxious, his breathing hurried. He complained of pains in various parts of the body, more particularly in the right hand and wrist; of pain referred to the cardiac region, increased on inspiration; and of excessive palpitation, dyspnoea, and orthopnoea. His joints were neither red nor swollen, but he was sweating profusely, and presented all the general symptoms of rheumatic fever, complicated by heart affection. There was extended dulness on percussion in the cardiac region, and considerably increased and extended impulse. The heart's action was regular, but of a peculiarly trembling character; the sounds were dull and distant, unaccompanied by any murmur at the apex of the heart, but both attended by a loud murmur at its base: that with the first sound, short and whiffling, was heard loudest at the sternum, quite at the base of the heart; that with the second was prolonged, and as loud over the aortic valves as up the track of the aorta. There was distinct pulsation over the sternal extremity of both clavicles. His pulse was regular, but eminently jerking. He could not lie on his right side, and his easiest position was leaning forwards, with his body inclining to the left. Moist and rather coarse crepitations universally diffused throughout the chest. There had never been dropsy. By the treatment adopted great relief was obtained, and by the 21st, as all pains had subsided, and the palpitation was hardly more severe than it had been for several months, he was induced to get up for a few hours. On the 22d he sat up during the day, and so also on the 23d, and expressed himself as "very much better." On the evening of the 23d, he retired to bed about 7 P.M., and appeared comfortable and cheerful; but about 10 P.M., without any complaint of palpitation, he made a sudden exclamation, and expired in a few seconds.

The following was the result of the post-mortem investigation:—The body well formed, and in good condition; the left lung pushed upwards and backwards by enormous enlargement of the heart, which occupied the whole of the anterior surface of the chest, as seen when the sternum was removed. Both lungs were healthy in structure, though congested at their posterior and inferior parts, and loaded with frothy serum.

The opposed layers of the pericardium were universally adherent by old and firm adhesions, except just at the root of the large vessels, where there was about a square inch of surface, covered with recent jelly-like lymph; the heart enormously enlarged, but without much hypertrophy; the left ventricle was almost sufficiently large to allow of the whole hand, and the aorta was also greatly dilated; the aortic valves were thickened, and one shortened; and the mitral valves opaque, and somewhat thickened, but not so as to interfere with their action; they were considerably enlarged, and the tendinous cords of the mitral valves were elongated, and developed to an extraordinary degree; the cavities of the right side of the heart considerably dilated, but their valves healthy. The liver, kidneys, and other abdominal viscera, healthy.

CASE II.—Edward R., a groom, aged 18, was admitted, under Dr. Wilson's care, at St. George's Hospital, on the 9th of December, 1846. Having previously enjoyed good health, he began to suffer, about two months ago, from slight cough, dyspnoea, and pain in the chest, referred to the cardiac region. These symptoms, however, were so slight that he kept about his work up to a month ago, when he was suddenly seized with acute pain on the left side of the chest, dyspnoea, and severe cough, which symptoms, though somewhat relieved by the treatment adopted, ever after prevented his resuming his occupation. During the last month he has suffered slightly from palpitation, and his feet have occasionally swollen towards evening; he never had rheumatism; he never had a blow on the chest, nor is he aware of ever having strained himself. On admission, though his complaint was of cough and debility, it was evident that the primary cause of mischief was in the heart. There was turbulent action of that organ, with extended dulness on percussion in the cardiac region; considerably increased impulse, and dull, imperfect, and confused sounds. Indeed, the normal sounds of the heart could hardly be distinguished, but were replaced by a low, continuous murmur, which at times might almost be confounded with an indistinct friction-sound. His pulse was exceedingly small and weak, and rather irregular, but did not intermit. His chest was resonant on percussion at either apex, and the breathing, though accompanied by occasional large, moist crepitations, was vesicular; urine loaded with the lithates and purpurates, and though on one or two occasions purpurous, not so constantly; his bowels were acting freely; his tongue moist, and but slightly coated. He went on comfortably up to the 19th inst., when his cough became worse, and, on the following day, was accompanied by aggravation of his other

symptoms. The dyspnoea and orthopnoea became excessive; he suffered greatly from palpitation and pain in the region of the heart; profuse hæmoptysis occurred, and his feet and legs became rapidly swollen. From day to day these symptoms became worse, the hæmoptysis continued, the cough increased, and the lower part of either side of the chest became dull on percussion; and thus, after his lungs had become gradually more gorged, he sank, without any material alteration in his symptoms, on the 27th.

The post-mortem appearances were as follow:—Lower extremities oedematous; each pleura contained about half a pint of clear blood-tinged serum. Lungs, in their superior third, extremely congested; in their inferior two-thirds, apparently somewhat inflamed, and much solidified by the interrupted effusion of blood. Pericardium contained about three ounces of clear blood-tinged serum. The heart was enormously enlarged: its right cavities were greatly dilated, and the walls unusually thin, but the tricuspid and pulmonary valves were healthy. There was enormous dilatation of the left ventricle, with considerable hypertrophy; and the left auricle was somewhat enlarged. The mitral valve was probably efficient, but bore marks of recent inflammatory action, for on its free margin were several recent pink fleshy vegetations, and on its surface one or two specks of recent lymph. The aortic valves were diseased to such an extent as to render it almost impossible to pass the little finger from the ventricle into the aorta. The free margin of one of the valves had been entirely broken down (probably by ulceration), and the valve itself destroyed for at least one half of its depth, while the remaining portion of it was thickened and opaque. At its point of junction with the other valves, but chiefly on the superior surface, was an enormous irregular deposit of calcareous matter, which, projecting into the cylinder of the aorta, at right angles to the walls of that vessel, held the aortic valves in a permanently semi-closed condition, the only egress for blood from the ventricle into the aorta being through the opening afforded by the broken-down condition of the mitral valve, and by such freedom of motion as yet remained in the other two valves. These valves were greatly thickened, and were very rigid along their free margin; and immediately above each of them was a dilated pouch of the aorta sufficiently large to receive a small hazel nut. The aorta itself, with the exception of the lesion above alluded to, was healthy. The abdominal viscera were greatly congested.

The cases above detailed, though by no means uncommon, Dr. Fuller remarked,

presented excellent illustrations of two forms of cardiac disease. The first was interesting, as shewing to what an enormous extent the chordæ tendinæ may become developed, when, from the circumstances of the case, the strain upon them has been violent and long continued. The second was remarkable for the extent of organic mischief, and the short duration of any notable symptoms; for, as the patient considered himself in perfect health two months before admission, we must either suppose that considerable lesion of the aortic valves had existed for some length of time without giving rise to much inconvenience, or that such mischief commenced coincidently with his symptoms, and accordingly, within the short period of two months, produced the enormous dilatation and hypertrophy of the heart revealed by post-mortem examination. The former hypothesis appears the most consistent with experience, for, even when the valvular mischief is excessive, it is found, in cases where the exact date of that mischief can be ascertained, that a much longer period of time than two months is usually required to produce cardiac hypertrophy corresponding in extent with that which existed in the present instance; and the condition of the valve is most clearly indicative of chronic rather than of recent disease; for, though thickened and opaque, they bore no traces of recent inflammatory action, nor was there any evidence of such action on the lining membrane of any part of the heart.

Dr. PEACOCK then read a case of *Contraction of the Mitral Aperture, in which there was no Murmur during the last periods of Life, and in which the Lungs presented obstructive Coagula in several large branches of the Pulmonary Artery.*

The heart and lungs were exhibited. The woman was 68 years of age, and the only history obtained was, that she was taken ill one month prior to admission into the Free Hospital, after having been exposed, nearly naked, to the cold and damp air. During the three weeks that she was under observation, she had extreme difficulty of breathing, cough, and expectoration, partly mucopurulent, partly bloody, with anasarca of the lower extremities, and effusion in the cavities of the abdomen and thorax. The action of the heart was irregular, both in force and frequency; but, though she was attentively and repeatedly examined, the sounds were only flat and imperfectly developed, and were not attended by any distinct morbid murmur.

On examination after death, the pleural cavities were found to contain much fluid, and the abdominal and thoracic viscera were much congested. The heart weighed twelve

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The heart and lungs were exhibited. The woman was 68 years of age, and the only history obtained was, that she was taken ill one month prior to admission into the Free Hospital, after having been exposed, nearly naked, to the cold and damp air. During the three weeks that she was under observation, she had extreme difficulty of breathing, cough, and expectoration, partly mucopurulent, partly bloody, with anasarca of the lower extremities, and effusion in the cavities of the abdomen and thorax. The action of the heart was irregular, both in force and frequency; but, though she was attentively and repeatedly examined, the sounds were only flat and imperfectly developed, and were not attended by any distinct morbid murmur.

On examination after death, the pleural cavities were found to contain much fluid, and the abdominal and thoracic viscera were much congested. The heart weighed twelve

ounces, and all its cavities were distended with blood. The left auriculo-ventricular aperture was contracted, and the valves thickened, rigid, and united, so as to leave only an oval aperture capable of admitting the point of the forefinger, and permanently patent. The left ventricle was very large, and its walls somewhat thin, very flabby, and collapsed on division. Dr. Peacock remarked, that this instance afforded, while under observation, an exception to the ordinary signs of disease of the mitral valve. The explanation of the absence of the systolic murmur at the apex, is, however, readily to be found in the powerless state of the circulation during the whole time she was under observation. The left ventricle was evidently incapable of contracting with the energy requisite to throw a column of blood through the patent orifice with sufficient force and rapidity to produce a murmur. The section of the left lung shews an obstruction by coagula of two branches of the pulmonary artery. At the anterior and lower edge of the upper lobe of the right lung there was a mass of pulmonary apoplexy, and, in connexion with this, a large branch of the pulmonary artery was found obstructed; two other branches in other parts of the same lung were similarly affected, and two in the left lung. The coagula were firm, decolorized, and partially adherent; their formation was doubtless owing to the long-continued and gradually increasing obstruction to the current of blood in the pulmonary artery, dependent on the contraction of the mitral aperture, and the engorgement of the pulmonary veins, together with the pressure exercised upon the lung from without, by the fluid in the pleural cavities.

Dr. WILLIAMS agreed in the opinion expressed by Dr. Peacock in reference to the cause of the absence of the cardiac murmur, and alluded to several cases of mitral disease in his own experience in which, during violent action of the heart, the murmur was very audible, but during the feeble contraction of the organ not capable of detection.

Dr. NORMAN CHEVERS remarked, that in every case of pulmonary apoplexy that had come under his notice he had remarked clots in the divisions of the pulmonary artery, and mentioned a case in which the coagula extended to almost the secondary ramifications. He was of opinion that this morbid appearance was diagnostic of this affection from grey hepatization.

Mr. PRESCOTT HEWITT presented a specimen of

An Extensive Lacerated Wound of the Rectum and Bladder, produced by the Leg of a Chair.

The patient, a man, aged forty-three, was

admitted into St. George's Hospital, under Mr. Keate, in a state of collapse, and complaining of severe pain about the vesical region, and over the lower part of the abdomen. He stated, that a short time previously, he had slipped off a table upon which he was standing, and that in his fall he had knocked over a chair, one of the legs of which having struck him on the side of the anus, had glanced off, and passed up the rectum. On examining the anal region, nothing was observed, with the exception of a slight laceration at the left margin of the anus, which did not penetrate more than a few lines in depth. A catheter was passed into the bladder, and a quantity of bloody urine drawn off. The pain soon spread over the whole of the abdomen, the collapse continued, and the patient sank, with symptoms of low peritonitis, in about twenty-one hours after his admission to the hospital. At the *post-mortem* examination no appearances of injury existed about the perinæum but there was some ecchymosis in the neighbourhood of the slight wound at the margin of the anus. At about two inches and a half from this opening, there was a large, lacerated wound in the front part of the rectum, through which two fingers were easily passed into the bladder, at its fundus, and on laying open this organ another extensive laceration was found at the right side of its apex, leading into the cavity of the peritonæum. The leg of the chair having slipped up the rectum, had thus transfixed this organ and the bladder from its fundus to its apex. The peritonæum contained a large quantity of bloody fluid, mixed with recently-effused lymph.

The preparation is in the museum of St. George's Hospital.

Mr. AVERY exhibited a specimen of
Extensive Ulceration of the Rectum, of a Syphilitic Character,

Taken from the body of a fair, delicate girl of the town, aged twenty-two, who was admitted into the Charing-Cross Hospital on the 14th of August, 1846, and who died, five months afterwards, from an accidental attack of erysipelas of the face. Mr. Avery remarked, that the ulceration was interesting on account of its extent, as well as of its duration, and, taking into consideration the length of time it had existed, of its limited depth; it was interesting from its connexion with syphilis, and from the little suffering it had occasioned. She had been in the hospital a year before, under Mr. Hancock, with an extensive sloughing ulcer in the fourchette, which had burrowed deeply between the vagina and rectum. When she was admitted on the last occasion, she complained of a copious discharge of pus, sometimes bloody, that poured from the anus in

considerable quantity on any sudden movement. The annoyance had existed more than two months before her admission. On examination, the gut, just within the anus, felt uneven and rough; higher up it was soft and smooth. She suffered very little pain, and her motions were not otherwise unusual than being covered with purulent matter and sometimes streaked with blood. She had numerous indelible marks of previous syphilitic eruption on the limbs and trunk, and she was still suffering from sore throat. The treatment consisted of small doses of bichloride of mercury and sarsaparilla, and astringent injections, with nutritious diet. The discharge gradually diminished so much, that just before her death it had almost ceased, when she was attacked with erysipelas, which proved fatal in a few days.

The rectum was opened from behind, and immediately within the anus, which is surrounded by a circle of vegetations, the ulcer was seen to commence: it extended three inches upwards, and occupied the whole of the internal surface of the rectum to that extent. The edges rough and uneven above and below, but soft and rounded; the whole surface smooth, exhibiting the muscular fibres of the intestine quite bare, some of the circular muscular fibres being destroyed. The neighbouring mucous membrane appeared in a healthy condition, and the whole ulcer gave me the idea that the ulcerative process had been arrested, and that of reparation was about to commence. A deep hollow in the fourchette showed the situation of the ulceration (most probably a primary syphilitic one) for which she came into the hospital a twelvemonth ago, and there is little doubt but that the ulcer of the rectum itself is one of the phenomena of secondary syphilis.

Mr. Avery, in answer to Dr. Gull, (who had quoted some of the statements of Rosenbaum, to prove that what were thought generally to be secondary ulcers were absolutely primary in many instances, such as those occurring in the fauces, &c.) stated that the evidence in favour of the ulcer of the rectum in the case under consideration, rested on the long period of its existence, its slight depth, the previous occurrence of primary ulceration, and the presence of old cicatrices in different parts of the body.

Mr. FORSTER exhibited a specimen of
Deficiency of the lower portion of the Rectum.

The child had lived thirteen days without taking food, and during life an operation was not deemed advisable.

Dr. JENNER exhibited a specimen of
Ulceration of the Gall-bladder,
Which was taken from the body of a maiden

lady, aged sixty-three, who had been seized, six or seven years ago, with an acute attack of what was deemed to be hepatitis, and which was treated accordingly. Since this attack, she had always been in a delicate state of health, suffering from occasional diarrhoea, slight pain, and sense of distension after eating. A second acute attack came on, on January 11th, marked by severe pain in the hepatic region, violent vomiting, cold surface, rapid and weak pulse, and constipation, followed by the formation of a circumscribed tumor below the cartilages of the ribs, towards the umbilicus, in the situation, in fact, of the gall-bladder. Under the influence of active treatment, the symptoms declined in intensity somewhat till the 17th, bilious diarrhoea supervened, followed by copious discharge of blood by stool, and repeated vomiting of green fluid. She died comatose twelve days after the commencement of the attack. In the *post-mortem* examination, made forty-two hours after death, the stomach was observed to contain two ounces of greenish fluid, and to present at the large curvature several deep-red spots, from the effusion of blood. A similar congested condition existed in the mucous membrane of the cæcum, colon, and lower part of ileum. The large intestines were distended with flatus, and some clots of blood were found in the cæcum. Liver small. On making section of it, a thick, reddish, purulent-looking fluid escaped, which could be traced into the portal system. The vena portæ contained a dark clot, extending into its smaller branches, and which clot adhered to the lining membrane of the vein, in the latter situation, some small red patches being observed in the inner membrane of the primary trunk. The gall-bladder had all its coats much thickened, and several small round ulcers of the mucous membrane, and here and there an apparent effusion of lymph.

Dr. LLOYD exhibited the

Diseased Kidneys of a Child, aged one year and a half, who had died from Double Pneumonia.

The urine during life was albuminous, and on the post-mortem inspection the surface of both kidneys was observed to have been highly inflamed, there being immediately beneath the proper covering much purulent effusion, and the cortical structure itself being interruptedly sloughy and gangrenous, with numerous circumscribed depositions of scrofulous pus. There was neither disease of the bladder nor obstruction of the ureter.

Mr. COLLE exhibited a specimen of

Scirrhus Stricture of the Œsophagus,
Taken from a patient, aged forty-six. The stricture was situate two inches from the

stomach, and was so small as merely to allow of the passage of a large probe.

Correspondence.

CASE OF STRANGULATED HERNIA IN AN INFANT SEVEN DAYS OLD.

SIR,—At the meeting of the Royal Medical and Chirurgical Society, on the 12th of January, there was a discussion (recorded in the *MEDICAL GAZETTE*) upon the subject of hernia occurring in young patients; the following case is perhaps sufficiently interesting to occupy a place in your pages, as being an instance of strangulated hernia in a very young infant.

In May, 1844, I attended a woman in her confinement; she had a long, tedious labour from insufficient pains, but there was no obstruction to delivery: the child (a boy) was to all appearance perfectly healthy when born, and continued so till the fourth day; on that day, however, there were constipation and sickness; upon examining the child I found the right side of the scrotum swollen, red, and painful, containing indeed a portion of intestine strangulated. I tried to return this, but could not succeed; the parents of the child were poor, ignorant, and obstinate, and would not allow an operation to be performed. I tried such measures as could be tried in such a case, but the child died on the seventh day of its age, and the third after the commencement of the symptoms of strangulation.

CALEB ROSE.

Swaffham, Norfolk,
Feb. 4, 1847.

CORRESPONDENCE BETWEEN DR. GREGORY AND DR. TYLER SMITH.

SIR,—As the following note, written spontaneously by Dr. Gregory, and containing an apology more ample than we could have desired, refers to his remarks, published in the *MEDICAL GAZETTE*, upon our conduct in the difference between Dr. Gregory and Mr. Wigan, now amicably settled, may we beg the favour of its insertion in the pages of your Journal.

We remain, &c.

Your obedient servants,
GEORGE WEBSTER,
W. TYLER SMITH.

Feb. 3, 1847.

(Copy.)

31, Gt. Weymouth-street,
Jan. 30, 1847.

MY DEAR DR. WEBSTER,—I request that you will communicate to Mr. Wigan my regret that I did not send for him on the

occasion of being called to his patient on the 7th September, 1846. I feel quite sure that he will himself acquit me of any desire to injure his professional reputation.

I hope that you and Dr. Tyler Smith will pardon me for having in a moment of irritation attempted to defend myself by the disparagement of your professional qualifications.

I regret very sincerely that my feelings throughout this affair should have been so excited as to lead me to do that which was hasty, and to say that which was intemperate. I trust that you and my professional brethren may find some partial excuse for these errors in an over anxiety to uphold my professional honour, which appeared (perhaps unintentionally) to have been called in question.

I am, dear Sir,

Yours very faithfully,

G. GREGORY.

To Dr. George Webster,
Dulwich.

Medical Trials and Inquests.

THE QUEEN V. LOVELL.

Trial and acquittal of an Hydropathist on a charge of Manslaughter. The Law as applied to Sham Lawyers and Sham Doctors.

DR. CHARLES HENRY LOVELL surrendered to take his trial upon the coroner's inquisition, in which he was charged as the principal in the manslaughter of Martha Hobbs, by immersing her in cold water and placing wet cloths upon her head and body; and Hope Betts, the aunt of the deceased, was charged as an accessory, by being feloniously present, aiding and assisting. Mr. Payne was instructed for the prosecution; Mr. Clarkson and Mr. Ballantine defended Dr. Lovell; and Mr. Bodkin with Mr. Mellor appeared for the female defendant.

This case arose out of the hydropathic system of cure, and it appeared to create a good deal of interest. The grand jury ignored the bill that was presented to them, but it was necessary to dispose of the coroner's inquisition.

Mr. Justice CRESSWELL, addressing Mr. Payne, said he had looked over the depositions, and he should be glad to know whether there was any further evidence as to the cause of death than that which was given before the coroner's jury, and upon which the grand jury had ignored the bill?

Mr. PAYNE said he believed not, but he did not feel himself justified in withdrawing the case from the consideration of the jury.

Mr. Justice CRESSWELL said he might proceed, but he suggested that it would be

advisable to call the medical gentlemen to speak as to the cause of death, in the first instance.

Mr. PAYNE then addressed the jury, and briefly described the nature of the charge against the defendants. He said there was no intention to impute any want of kindness or proper attention to Dr. Lovell, but it was suggested that, being an ardent admirer of the hydropathic system, he had rashly applied it to the deceased, and so caused her death, and he apprehended that, if he should make out this fact to the satisfaction of the jury, it would amount to the crime of manslaughter.

Mr. Jacob Asbury, the surgeon who made a *post-mortem* examination of the deceased, was examined.—He said he observed the appearance of the cutaneous disease called leprosy. There was inflammation of the pia mater, and the vessels of the brain were very much congested, and these appearances accounted for the death of the deceased. He considered the application of wet cloths and cold to the surface of the body would be calculated to produce the appearances that he observed, but he would not undertake to say that they might not have been produced by other natural causes.

By Mr Justice CRESSWELL.—There was a natural tendency in the human system to transfer diseases from the skin to the internal parts of the body, and that might have been the case in the present instance, entirely independent of the application of the wet cloths.

Mr. PAYNE said he could not carry the evidence any further.

Mr. Justice CRESSWELL, addressing the jury, said it was the law that no man could be found guilty of a crime unless he was proved to have committed it. In this case, a scientific man, who was the only witness that could be called, told them he could not prove it; therefore it was their duty to acquit the accused parties.

The jury immediately returned a verdict of *Not Guilty*, and the Court ordered the defendants to be at once discharged.

This case would be incomplete without the following extract from the Recorder's charge to the Grand Jury, delivered at the opening of the Court on Monday, Feb. 1.

There was one case which, from its very peculiar character, required that he should direct the attention of the grand jury to the circumstances under which the charge he alluded to was preferred. The case came before the Court upon the finding of a coroner's jury, and the inquisition alleged a charge of manslaughter against a medical gentleman named Lovell, and a woman named Betts, for having placed wet sheets and wet cloths upon the body of the deceased person, and thereby, she being at the time suffering under a dangerous disease, causing

her death. He had looked carefully over the medical evidence in the case, and he must say that he could not see that any portion of it would justify such a finding by the coroner's jury. He had likewise looked over attentively all the other evidence in the case, and it really appeared to him, that the verdict given went to this extent—that *a medical man, who might be called in to prescribe for a disease of a dangerous character*, would be liable to a charge of manslaughter if he did not succeed, or if any of the remedies adopted by him should, by possibility, have hastened the death of the party. In this case, however, the medical testimony went to show, that the proceedings adopted did not, in the most remote manner, accelerate the death, and yet in the face of such testimony a verdict of manslaughter had been returned. Under these circumstances, he (the Recorder) felt it to be a duty he owed to the public to call the particular attention of the grand jury to the charge in question, and to the very slight evidence by which it was supported. All that was proved against the accused persons was, that they had placed the deceased in a *tepid bath*, and that some wet bandages had been placed upon her person; and from these facts it would seem that the coroner's jury had inferred that the disease, which was one of a cutaneous character, had been driven into the system, and so caused her death. The medical testimony, however, completely negatived such an inference; but in the teeth of that evidence the jury returned a verdict of manslaughter. The grand jury would have to say, whether, under such circumstances, they could come to a conclusion that there was any pretence for such a charge, or whether there was the least proof of any criminal negligence, or indeed any negligence whatever * * * Their duty, therefore, if they should find the evidence to go no further than he had stated, would clearly be to shield persons from the ignominy of a trial for felony, when there did not appear to be any foundation for the charge made against them. If, however, it should appear that stronger evidence had been laid before the coroner's jury than appeared in the depositions, or additional evidence should be laid before them to make the case stronger against the accused parties, they would, of course, act accordingly; but he must say that it did appear to him most extraordinary that any jury could have returned a verdict of manslaughter against persons, and subjected them to take their trial for felony, upon such slight evidence as appeared on the present case.

The grand jury ignored the bill.

. As no person can be convicted of manslaughter unless the cause of death

be clearly traced to his act, and the medical witness admitted that the appearances met with in the body of the deceased might have arisen not from the alleged maltreatment, but from "natural causes," there was at once an end of the case. The accused was not legally responsible for the death. We are, however, inclined to think that the charge of the learned Recorder, by the open encouragement which it holds out to quackery, is calculated to protect all pretenders to physic from the responsibility which should justly follow the employment of improper or dangerous modes of treatment. This, of course, was not the intention of the learned judge in making these remarks, but they appear to admit of no other construction.

A medical man may not succeed in his treatment of a disease of a dangerous character; but this should not be twisted into an argument for screening a non-medical man from dabbling in the use of remedial measures which may be attended with danger. What is Dr. Lovell's qualification to practise in this country? We look through the trial for some evidence of this, but we do not find it:—probably because the law, most improperly, as we think, does not call for proof of *qualification*, but places the *qualified* and *unqualified* person on precisely the same footing! The name of Dr. Charles Henry Lovell does not occur in the "London and Provincial Medical Directory for 1847;" and, therefore, until some proof is offered, we must be permitted to doubt whether the accused in this instance had any legal right to prescribe cold or tepid water, or to interfere in any way with the treatment of the case.

This, it may be urged, is beside the question. Then, we beg to inquire, on what principle of equity or justice is it that a man is *transported for seven years* for taking a fee of six-and-eightpence by acting as an attorney without a license? Is it from the amount of damage done to the prosecutor—or is it not rather from the fact that a profession, jealous of its privileges, and holding in its hands a vast legislative power, is determined at all hazards to put down by the most severe punishment all who practise without a qualification, whatever may be the results to those who become their clients?

The following paragraph is copied from a recent number of the *Law Times*:—

SHAM LAWYERS.

"A fortnight since, a Sham Lawyer was convicted at the Central Criminal Court and sentenced to seven years transportation. Therefore we advise the following persons to look to themselves, and the profession to look to them." [A list is then given.]

The issue here, we apprehend, was not

whether the sham lawyer had or had not a sufficient knowledge of law, or whether he did or did not cause any serious pecuniary loss to the complainant; but whether he merely acted as an attorney without proof of proper qualification. As this most decidedly involved the interests of a powerful profession, he was very properly condemned to that punishment which is awarded to highwaymen and burglars! To suppose that it seriously involved the interests of the public is absurd; because, from the present state of the law, it is obvious that a man's goods and chattels require a larger amount of legislative protection than his health and even life! The sham lawyers should, however immediately get up a petition to Parliament requiring a repeal of the obnoxious act under which they are now persecuted; and forthwith claim, as a matter of justice to themselves, and for the sake of "cheap law" to the public that they should be allowed to practise, unmolested by law associations, as freely as sham medical men!

STATE OF THE PUBLIC HEALTH IN THE LAST QUARTER OF THE YEAR 1846.

THE quarterly returns are obtained from 115 districts, subdivided into 576 sub-districts. Thirty-four districts are in the metropolis, and the remaining 81 comprise, with some agricultural districts, the principal towns and cities of England. The population was 6,579,693 in 1841. During the past quarter, fifty-two thousand nine hundred and five deaths were registered; which is 7,311 more than the corrected quarterly average of previous years, and 13,727 more than were returned in the corresponding season of 1845.

The first quarter of 1846 was remarkably healthy. The winter was mild; the rate of mortality lower than in the corresponding quarters of eight previous years. The northern districts alone, Sunderland, Newcastle-on-Tyne, and Carlisle, for instance, were striking exceptions. In the second quarter (ending June 30th) the mortality was a little above the average: and the diseases began to be prevalent in June which raised the mortality in the third quarter (ending September 30th) 9,655 above the average of that season. There was an epidemic of diarrhoea, and what is called English cholera. In London, eleven hundred deaths, exclusive of those by violence and cases of inquests, were registered in the first week of August; the epidemics declined, and the deaths fell to seven hundred and eighty-three in the last week of September. The deaths, which in the last week of November were 918, rose in the four following weeks of December to

1020, 1111, 1214, and 1214, in London; and the quarterly returns indicate a still greater increase of mortality in the other towns of the kingdom.

The abstracts of 1846 for the whole of England have not yet been made out; but from the present returns it may be calculated that there were 106,000 deaths in the September quarter, which, after a correction for increase of population, is 20,000 above the average; and 110,000 in the December quarter, which is 15,000 above the average*. The whole deaths registered in England and Wales were, in 1844, 356,950: and from the returns given in the quarterly tables, it may be deduced that the deaths in 1845 were about 352,000; in 1846, 406,000.

The deaths in 1846 were 50,000 more than in 1845: and nearly the whole of the excess in 1846 arose on the two last quarters of the year, from diseases of a totally different character. Thus, in London, 1821 deaths from diarrhoea, dysentery, and cholera, were registered in the September quarter, 389 in the December quarter; while 977 deaths from lung diseases (exclusive of consumption) were registered in the September, and 2628 in the December quarter. Upon referring to the table it will be seen, that small-pox, measles, scarlatina, hooping-cough, croup, and thrush, which proved fatal to 1987 persons, chiefly children, in the December quarter, 1845, only destroyed 963 lives in the December quarter, 1846, when diarrhoea, dysentery, cholera, and influenza, were unusually common, and typhus carried off 619 persons, of all ages. Bronchitis (in many cases a consequence of influenza), asthma, hernia, colic or ileus, diseases of the stomach and liver, and rheumatism, were more than usually fatal. 397 persons (including suicides) died violent deaths,—a number nearly 100 greater than died from the same causes in the December quarter of 1845. The deaths from cold and want were nearly twice as numerous as in previous years. A great increase in another distressing class of cases will be observed. In the thirteen weeks one hundred and sixty-three mothers died in childbirth. Only 95 deaths were registered in the corresponding quarter of 1845. It is to be regretted that steps are not taken in this country to educate nurses and midwives, on whose care and services the lives of women in childbirth often depend.

The increased mortality in London gives but a faint notion of the mortality in the large towns of the country. The deaths in

the December quarters of 1845 and 1846 were respectively 11,695 and 13,033 in the London districts; 27,483 and 39,872 in the other districts which made returns. Referring to the Registrars' notes, the high mortality in the towns of the country is in many places ascribed to typhus. The diarrhoea of the summer quarter was succeeded by fever; generally of the form accompanied by considerable disorder of the digestive organs. It was apparently the typhus characterised by ulcerations of the intestinal glands (dothinerterea) rather than typhus with petechiae. The epidemic of diarrhoea continued in several towns; and scarlatina—the disease most fatal to children between five and ten years of age, and which tracks their path up to twenty—raged with great violence in several districts, but chiefly in the northern counties. It was fatal to between 200 and 300 persons in Newcastle-upon-Tyne alone. Bronchitis and other inflammations or congestions of the chest were the immediate consequences of the cold weather, and the causes of many deaths, particularly amongst persons afflicted with asthma and heart disease.

The mean temperature of the quarter at Greenwich was 44°2, which is 1°9 below the temperature of the corresponding quarter of 1845, and 1°3 below the average of the quarter for 25 years, but 1°8 above the temperature of the last quarter of 1844. The mean temperature of the week ending December 5th was 32°; the highest was 38°, the lowest 25°; the highest in the sun 57°, the lowest on the grass 10°. The next week the temperature rose a little, but fell on the week following to 30°: the lowest temperature of the atmosphere was 20°, of the grass on the ground 9°, of the water of the Thames 31°. Upon the whole, the weather in December 1846 was not so severe as the weather in December 1844; and in London the mortality of the quarter was not so great in 1846 as in 1844. The aggregate mortality in the December quarter 1844 was 43,918, in the same quarter of 1846 it was 52,905. It may therefore be concluded that though the cold was fatal to many lives in both years, it was not the chief cause of the excessive mortality in the last quarter of 1846.

The Registrar of St. George, Manchester, after stating that the great number of deaths in his district (406) may be partly accounted for by the prevalence of measles and typhus, goes on to say:—"The population of the district is to a great extent composed of the lower order of Irish, who live and lodge together in great numbers in the same house. In one part of the district, called 'Angel Meadow,' it is not uncommon to find 20 or 30 persons living in one house, when there is not accommodation for one-third of

* The yearly deaths in the districts from which the Quarterly Table is framed comprise 47·11 per cent. of the deaths in all England and Wales; the proportions in the September quarter are 48·21; in the December quarter, 48·16 per cent.

that number, especially if health is to be in the least considered. *During the last two or three months, large numbers of the poor from Ireland have crowded themselves in the district, droves of them rambling about the street, seeking lodgings, and, no doubt, being exposed to the severe and inclement weather.* Many of the poor creatures have died from cold producing fever and other diseases. Owing to the great increase of mortality during the last few weeks, I instituted inquiries as to the length of time the deceased had been in England, and found in very many cases they had been only a few weeks. The poverty and destitution of the district at the present time is very great. The houses are badly ventilated, and the unhealthy odour arising from so many persons huddled together in a confined apartment must have a very injurious effect. It cannot be surprising that, while such a state of things exists, the mortality should be so great."

The same thing is noticed in Liverpool. The Registrar of St. Thomas says:—"A considerable portion of the increase [of deaths] arises from the great influx of poor people from Ireland, most of whom are quite destitute when they arrive. Some have been only a few weeks, others a few days, in the town previous to their death."

The population of the United Kingdom, which was about 28,487,000 in the year 1846, probably increased at the mean rate of 800 daily. The daily births exceed the deaths by 1056; and the surplus of 256 is the average number who leave the United Kingdom. The emigrants from England are constantly replaced by nearly an equal number of the natives of Scotland and of Ireland, who, it is estimated, amounted to upwards of 27,000 a year in the 10 years 1831-41.* The sad condition and the habits of these poor Irish immigrants have no doubt contributed to deteriorate the health of Liverpool, Glasgow, and Bristol,—the ports through which they enter,—as well as to raise the mortality of Manchester and other inland towns. They may also introduce fevers and other diseases into England. As the different families of men are of one kind and of one blood, they have diseases in common. Like living things, epidemics do not cease with the circumstances in which they are produced: they wander to other places, and descend to remoter times. The plagues of the eastern empire † and the

"black death," depopulated the western world; the Egyptian ophthalmia blinded thousands in Europe; the *febris castrensis*,—a typhus called *fièvre meningite catarrhale de congelation*, by Larrey,—which broke out in the French army after their disastrous retreat from Moscow, became contagious, and committed terrible ravages among the peaceful citizens of Poland, Prussia, Saxony, Germany, and France*; the cholera epidemic, generated in the miserable population of Asia, on the banks of the Ganges, traversed England from Sunderland to London and the Land's End. If all nations, however remote, are liable to suffer from each other's maladies, and have therefore a direct interest in each other's well-being, the principle holds with tenfold force of the provinces of the same kingdom and the inhabitants of the same cities. The unhealthy and miserable parts of the population, who are left with an imperfect claim to relief on the property of their native soil, exercise, in a variety of ways, a deleterious effect on the rest of the empire, both when they are suffered to feed at home in hovels on one kind of the lowest and most precarious subsistence, the failure of which entails starvation on men, women, and children, or lights up fever, and when they have strength left to quit their parishes and kindred to seek a livelihood in England. But the extraordinary mortality of Manchester and Liverpool in 1846 cannot be ascribed in any great extent to the influx of Irish: in Manchester, for example, this influx is stated to have taken place during "the last two or three months." Now the mortality of Manchester, Salford, and Chorlton, which is, under ordinary circumstances, nearly double the mortality of the healthiest parts of the kingdom, rose from 2411 in the three months, July, August, September, 1845, to 4248 in the same months of 1846, before the tide of Irish destitution had set on Lancashire. The increase of mortality commenced at the same time, and has continued since in Birmingham, Oxford, Bedford, and in other towns, large and small, where the Irish population is inconsiderable.

The "high price of provisions," "de-

off innumerable victims. As the reign of M. Aurelius forms a turning point in so many things, and above all, in literature and art, I have no doubt that this crisis was brought about by that plague. * * * The happiness of M. Aurelius was thus disturbed by the plague, which was carried into Europe from the East, and by the wars with the Germans. * * * It increased in the reign of Decius, that is, from A. D. 256. During the ravages made by the barbarians, it spread all over the empire; it now raged in Africa and Egypt, and became settled.—*Niebuhr, Hist. Rome*, vol. v. p. 281-2, 345.

† *Chirurgie militaire et Campagnes de Baron D. J. Larrey*, vol. iv. pp. 139, 147, 455.

* Registrar-General's 7th Annual Report, 8vo. pp. 5-10.

† In the reign of M. Aurelius, A.D. 167, the real oriental plague was carried into Europe by the army returning from the Parthian war, and spread all over the western world. Asia Minor, Greece, Italy, Gaul, &c. Africa alone was perhaps not reached by it. This pestilence must have raged with incredible fury, and it carried

pression of trade," and "distress," are referred to by the Registrars of Stockport and Little Bolton as causes of the high mortality in December. The failure of the potato crop and the dearness of provisions left the poor very ill able to provide the additional clothing and firing required by the severities of the weather, and their sufferings must have been aggravated where their earnings were at the same time diminished. As this "distress" is not adverted to in the preceding September quarter, and but rarely in the December quarter, it will not account for the excessive mortality of the half year. In connexion with cold, however, want was the cause of many deaths in December. No mention is made of the potato disease having had any direct connexion with the mortality. The potato, in a state of partial disease, has, no doubt, been extensively consumed without giving rise to any specific malady in man, or, indeed, having any appreciable connexion with the disorders of the bowels and fever, which grew prevalent about the time the last crop came into use. The absurd and unfounded fancy that the cholera epidemic, so fatal to infants at the breast and old people, as well as others, is caused by fruit, or has any connexion with the "plum season," derives not the slightest support from the observations of the year, when the supplies of fruit were unprecedentedly scanty. Dr. Baly, the physician to the Milbank Penitentiary, shewed some time ago that scurvy was very prevalent in prisons from the dietaries of which potatoes were excluded, and did not exist where potatoes were used*. The potato contains a small quantity of a vegetable acid, in combination with potash (bitartrate of potash, or cream of tartar). It is certain that scurvy, which was formerly common, has almost disappeared since the potato entered largely into the food of the population. If, now that the potato has grown scarce, this disease, characterised, among other symptoms, by swollen bleeding gums, again become prevalent, its simple prophylactics should be had recourse to.

It is found, from the returns of the seven years 1838—44, that the mortality of Liverpool and Manchester, and the worst parts of other towns, is nearly double the mortality of tolerably salubrious districts†; and it is here seen that while the mortality of the latter districts was raised 50 or 60 per cent., the ordinary but unnatural and frightful mortality of the denser districts was raised from 70 to 100 per cent. in 1846 over what it was in 1845. It is well known that the decaying matters of marshes give rise to agues, dysenteries, and fevers; and it is proved satisfactorily, by the facts collected under the Registration Act, that the exces-

sive mortality from diseases of the zymotic and other classes, observed in towns, is occasioned by animal or vegetable poisons, with which the atmosphere is charged, in different degrees of concentration, depending on accumulated filth, crowding in dwellings and workshops, the closeness of courts, imperfect supplies of water, and the want of efficient sewers. The high temperature of the summer of 1846, in which the mean thermometer ranged from 0°2 to 7°7 above the average during 10 weeks out of 13, accelerated the decomposition, and increased the virulence of these effluvial poisons as well as of the diseases which they promote. Once grown epidemic, the diseases continued to rage during the rest of the year. Thus the mortality of 1846 may be accounted for. If it took place in obedience to any cyclical law, or to a general cause acting simultaneously in Asia and Europe, the great fact remains, that the deaths were nearly twice as numerous in ill-constructed towns, where the poison is concentrated, as in the country, where it is diluted and destroyed by the fresh air.

The precise degree of influence which the various agencies have in causing the high mortality of towns is not easily determined. Opinions differ as to what fraction of the suffering and death is to be set down to the want of water or of sewerage—crowded lodgings, narrow streets, ill-ventilated workshops—the destitution of skilful medical advice—the neglect of children—doses of opium and overflowsings of quackery—slaughterhouses and rank churchyards. Similar discrepancies of opinion existed formerly as to the causes of the ill health and inefficiency of the navy. Down to the end of the last century the loss of life in our shipping was immense. The first fleet of the East India Company, out of 528, lost 100 men before and 5 after landing, in the voyage of seven months to the Cape of Good Hope. Anson, in three ships, lost 626 men out of 961, in ten months after leaving England. The men had scurvy, dysenteries, putrid fevers; their limbs dropped off: they swooned and died. In the year 1710, the Channel Fleet sent 11,732 sick to Haslar Hospital; 1457 had scurvy, 240 dysentery, 5539 fever. At that time, Sir James Saumarez said, "neither the ships nor men could keep the sea more than two months."* Captain Cook left Deptford, in 1772, with 112 men, sailed round the world, and returned in three years with the loss only of four men by accidents, and one by disease. Cook, in a paper read before the Royal Society, described the means which he employed to secure the health of his crew; the care which was taken in the selection of a vessel, in *drying and ventilating*, in pro-

* MED. GAZ.
† 7th Report, 8vo. pp. 332-3.

* Cited by Sir Gilbert Blane, *Diss.* vol. i. p. 18.

viding good provisions, antiscorbutics, and an abundant supply of fresh water. In the third voyage the men were equally healthy. After some years had elapsed, and a reform of the naval administration,* the principles established by Cook were carried out by the Admiralty, and the health of the navy was raised to a satisfactory standard. In Parry's three voyages of a year and a half and two years' duration, only seven men died out of 334. The annual mortality in the last voyage was 0·5 per cent. Cook did not wait till it had been settled how much of the sickness at sea was caused respectively by bad ships, dirty water, rotten provisions, the want of ventilation, and of lemon-juice. He procured, amidst great difficulties, all that

he believed was requisite to the health of the men. The experiment, though not an *experimentum crucis*, as applied to any one cause, was successful. It did not solve a physiological problem, but it saved the men's lives. If the general measures for the health of towns announced are proceeded with, they will, no doubt, be as successful as the similar measures introduced into the navy, and crowned in Cook by the award of the Royal Society in the last century. He who raises the industrious population of this many-cited kingdom to the natural standard of health will confer a greater service than Cook on the country; and will indeed be *parens ac deus salutis nostræ* if, according to Pliny, *deus est mortali, juvare mortalem, et hæc ad æternam gloriam via*.—*Registrar General's Report*.

* M'Culloch's Statistics of the British Empire.

Deaths Registered in the four quarters of the seven years 1840—46, in 115 of the Districts of England and Wales.

	1840	1841	1842	1843	1844	1845	1846
March	46,206	46,809	44,746	43,620	45,965	49,874	43,708
June	41,903	38,961	38,441	40,216	38,851	40,729	43,582
September . . .	39,337	35,899	39,249	36,815	33,782	36,008	51,235
December . . .	44,044	39,165	39,544	42,448	48,918	39,178	52,905
Total . . .	171,490	160,834	161,980	163,099	167,516	165,789	191,430

A Table of the Deaths in the Metropolis, from all causes, registered in the quarters ending December 1845-46.

Causes of Death.	Quarters ending Dec.	
	1845.	1846.
ALL CAUSES	11695	13033
SPECIFIED CAUSES	11631	12986
Small Pox	106	42
Measles	927	105
Scarlatina	269	322
Whooping Cough	557	368
Croup	82	65
Thrush	46	61
Diarrhoea	199	331
Dysentery	25	43
Cholera	11	15
Typhus	358	619
Sudden Deaths	82	93
Hydrocephalus	386	342
Apoplexy	272	347
Paralysis	213	267
Convulsions	450	548
Bronchitis	591	892
Pleurisy	43	43
Pneumonia	1131	1101
Asthma	190	313
Phthisis or Consumption . .	1382	1685
Disease of Lungs, &c. . .	145	186
Pericarditis	22	26
Aneurism	19	16
Disease of Heart, &c. . .	376	530
Teething	113	103
Childbirth	95	163
Violent Deaths	299	397

Medical Intelligence.

ADVANCE OF THE ASIATIC CHOLERA.— GREAT MORTALITY IN MECCA.

By intelligence received from Alexandria, dated January 19th, we learn that the Asiatic cholera has reappeared in the Hedjas, extending as far as Aden, and that within the space of a few days more than fifteen thousand persons have been cut off by this terrible disease in Mecca and its environs. It had, however, somewhat diminished in intensity, and was extending southwards. On the receipt of this intelligence great alarm was excited in Egypt, and a rumour soon spread that the disease had reached Suez and even Cairo. This report, however, was unfounded. The cholera had not reached Djedda on the 28th December. A sanitary cordon was about to be placed at a few leagues distance from Suez, so that no pilgrims would be allowed to enter Egypt from that quarter.

THE CHOLERA IN THE RUSSIAN SANITARY CORDON.

It is announced in the latest intelligence from Armenia, that the cholera has broken out in the sanitary cordon of Russian troops stationed on the borders of the Caspian Sea. Hence it has passed in a north-westerly direction to the Tartar districts of

Solgan and Leokeran. Many of the Cosacks on the frontiers of Persia had perished. The whole of the western coast of the Caspian sea, from Baku to Astrachan, is in a very unhealthy condition. The disease was still prevailing at Asterabad, Reschid, Ispahan, and Tiflis. All the inhabitants, who were able, have deserted the last mentioned town. Gastric affections were observed to be the forerunners of cholera, and those who were left in a weak state by these diseases, generally fell victims.

PESTILENTIAL FEVER IN ALSACE.

THE village of Badwiller, hitherto remarkable for its healthiness, has been for some time ravaged by a fever of a most pestilential character, apparently arising from the miasmata of stagnant water. Strong and vigorous men have been cut off by it as if they had been breathing a poisoned atmosphere, and every house contains persons affected by it. The population of this village in 1843 was 1400, and there were 38 fever cases; in 1844 there were 174 fever cases; in 1845, 728, and in 1846 no less than 1131.—*Gaz. Med.*

SICKNESS IN FRANCE.

TYPHUS fever of an aggravated kind is prevailing at Nadaillac, and a peculiar form of contagious disease, of a pustular character, has appeared at Lectoure.—*Id.*

STATISTICS OF MEDICAL PRACTITIONERS IN PARIS.

THE number of doctors of medicine in Paris amounted on the 1st January, 1845, to 1430, and in 1846 to 1442; of these, 125 are new practitioners.

TESTIMONIAL TO J. P. VINCENT, ESQ. OF ST. BARTHOLOMEW'S HOSPITAL.

At a large meeting held in the Library of St. Bartholomew's Hospital on Monday evening, Feb. 1st, it was proposed by Mr. Brownless, seconded by Mr. Tylor, and carried unanimously, that a testimonial be presented to J. P. Vincent, Esq. upon his retirement from the office of Surgeon to St. Bartholomew's Hospital. A committee has been appointed to carry out the objects of the meeting. The subscription has been limited to two guineas each. Mr. Ware and Mr. Crosse have been appointed secretaries, and Dr. Baly and Mr. Henry to act as joint treasurers.

* * We regret that, owing to want of space, we are unable to find room for the speeches made on the occasion.

EXHALATION OF BICARBONATE OF AMMONIA IN RESPIRATION.

In the last number of the London and Edinburgh Philosophical Magazine, is a communication from Mr. L. Thomson on the evolution of ammonia during respiration. Mr. Thomson adopted the following plan for demonstrating the presence of

ammonia in the breath. Air which had passed through diluted sulphuric acid was respired: it was then expired through a tube surrounded by water at a temperature of 32°, to the further end of which a vessel was attached to receive the fluid which became condensed. The fluid was acidulated with muriatic acid, evaporated to dryness on a water-bath, and the residuum thus obtained was dissolved in a few drops of water. On adding a strong solution of potash to this aqueous solution, ammonia was evolved, evidenced by its odour, its action on turmeric paper and muriatic acid. It was found necessary that the respiratory process should be continued for an hour or two.

Mr. Thomson calculates that rather more than three grains of solid bicarbonate of ammonia are exhaled daily from the lungs of a healthy adult; and that the quantity annually exhaled from the lungs of the inhabitants of London cannot be less than 150 tons! In this way, animals may furnish a large supply of ammonia for the support of the vegetable kingdom.

* * There appears to be one source of fallacy in the ingenious experiment performed by Mr. Thomson. Animal matter is exhaled in the breath; and after an hour or two there would probably be a sufficient quantity of this, collected and condensed, to yield ammonia as a product, when treated by a strong solution of potash. In order to remove this doubt, it would be proper to determine whether yellow arsenite of silver is precipitated on passing the condensed vapour into the mixed solutions of arsenious acid and nitrate of silver.

OBITUARY.

DEATH OF M. LABAT.

At Nice on the 16th January, in the forty-fourth year of his age, M. Leon-Mirza Labat Khan, Doctor of Medicine of the Faculty of Montpellier, and Chief Physician to the Shah of Persia. This gentleman, well known in the literary world, acquired celebrity from his travels in the two Americas, Africa, Greece, Turkey, the Holy Land, and Egypt, where he was made Chief Surgeon to the Viceroy. He was for four years Chief Physician to the Shah of Persia, who among other honours created him Mirza, a rank only inferior to that of Princes of the blood. M. Labat was the author of several works; among others of a Treatise on Rhinoplastics; a History of Mehemet Ali; a Treatise on Medicine and Hygiene among the Arabs, &c.

DOCTOR RANQUE.

Latel, M. le Docteur Ranque, Chief Physician of the Hospital and Prisons of Orleans, and dean of the Faculty of Medicine in that city.

MEDICAL APPOINTMENTS.

THE Queen has been pleased to appoint Dr. William Pulteney Alison to be First Physician to Her Majesty in Scotland, in the room of Dr. J. Henry Davidson, deceased.

The Queen has also been pleased to appoint Dr. Robert Christison to be one of Her Majesty's Physicians in Ordinary in Scotland.

The Queen has also been pleased to appoint Dr. James Young Simpson to be Physician-Accoucheur to her Majesty in Scotland.

ROYAL COLLEGE OF SURGEONS.

THE following gentlemen were admitted members on Friday, Feb. 5, 1847:—R. A. W. Westley.—J. K. Baines.—W. S. Briggs.—E. Govett.—J. L. Palmer.—J. Harward.—M. Morris.—C. Downes.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination and received certificates to practise on Thursday, Feb. 4th, 1847:—William Philip Harrison, Sheffield.—Edwin Simpson, Swadlincote, Derbyshire.—John Frederick Stevenson, Birkenhead, Cheshire.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer	29.31
" Thermometer	41.7
Self-registering do. max. 56.6 min. 29.3	
" in the Thames water — 41.5 — 34.5	
a From 12 observations daily. b Sun.	

RAIN, in inches, .48: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 5.6° above the mean of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Jan. 30.

BIRTHS.	DEATHS.	Av. of 5 Wint.
Males.... 779	Males.... 554	Males.... 542
Females.. 746	Females.. 599	Females.. 526
1525	1153	1068

DEATHS IN DIFFERENT DISTRICTS.

(34 in number;—Registrars' Districts, 129. Population, in 1841, 1,915,104.)

WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326)	159
NORTH—St. Marylebone; St. Pancras; Islington; Hackney .. (Pop. 366,303)	202
CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London .. (Pop. 374,759)	192
EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar .. (Pop. 393,247)	278
SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich .. (Pop. 479,460)	322
Total	1153

CAUSES OF DEATH.

CAUSES OF DEATH.	av.
ALL CAUSES	1153 1068
SPECIFIED CAUSES	1152
1. Zymotic (or Epidemic, Endemic, Contagious) Diseases ..	136 183
Sporadic Diseases, viz.—	
2. Dropsy, Cancer, &c. of uncertain seat	107 112
3. Brain, Spinal Marrow, Nerves, and Senses	157 170
4. Lungs and other Organs of Respiration	494 354
5. Heart and Bloodvessels	48 32
6. Stomach, Liver, and other Organs of Digestion	76 70
7. Diseases of the Kidneys, &c.	29 8
8. Childbirth, Diseases of the Uterus, &c.	15 12
9. Rheumatism, Diseases of the Bones, Joints, &c.	10 7
10. Skin, Cellular Tissue, &c.	6 3
11. Old Age	69 81
12. Violence, Privation, Cold, and Intemperance	24 30

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	2	Convulsion	37
Measles	9	Bronchitis	159
Scarlatina	14	Pneumonia	126
Whooping-cough	38	Phthisis	115
Typhus	32	Dis. of Lungs, &c. ..	28
Dropsy	17	Teething	9
Sudden deaths ..	10	Dis. Stomach, &c. ..	8
		Dis. of Liver, &c. ..	16
Hydrocephalus ..	29	Childbirth	7
Apoplexy	23	Dis. of Uterus, &c. ..	5
Paralysis	34		

REMARKS.—The total number of Deaths was 85 above the winter average. Deaths from pulmonary diseases were not so numerous, but they exceeded the Winter average by 130. The excess of mortality was chiefly in the East and South districts.

NOTICES TO CORRESPONDENTS.

The papers in reference to the meeting at Saint Bartholomew's Hospital are left with the printers, Messrs. Wilson and Ogilvy, 57, Skinner Street, Snowhill.

The acquittal of Dr. C. H. Lovell renders the insertion of Dr. W. Bevan's letter unnecessary. Our correspondent, we doubt not, is very sincere in his opinions; but he is decidedly in a minority on the question at issue. We refer him to the report of the trial at page 300 of the present number.

The communications of Dr. Hake and Mr. C. Taylor will appear next week.

We are obliged to Mr. Pagliardini for his letter, but want of space compels us to decline its insertion. It is left with the printers of the journal.

The letter of a Member of the College of Surgeons shall be inserted next week. His criticisms are very just, but the work is only of authority as a Directory.

We are obliged to Dr. Dick for the Tracts which he has forwarded to us.

Dr. Searle's note shall be referred to the reviewer.

RECEIVED.—Dr. Brookes.—Dr. Fairbrother.

Lectures.

A COURSE OF
LECTURES ON DENTAL PHYSIO-
LOGY AND SURGERY,

Delivered at the Middlesex Hospital School,

By JOHN TOMES, Esq.
Surgeon-Dentist to the Hospital.

LECTURE X.

Dental caries.—Physical changes of the dentine and enamel.—Cause of caries.—Theories of dental caries.—Analogy of dental to osseous caries.—Tables of the relative frequency of caries in the different teeth, and in different parts of the same teeth.—Causes and the treatment of caries.

DISEASES OF THE DENTAL TISSUES.

CARIES, dental gangrene, or decay, are the various names by which the disease I am about to describe is known. It is but of little consequence which of these we select for our present use; but as caries is the oldest, and is as expressive of the nature of the disease as the others, while it has the advantage of being short, we will, if you please, adopt that term.

Caries may be defined to be, death and subsequent progressive decomposition of a part or the whole of a tooth.

FIG. 31.



FIG. 31.—Longitudinal section of a molar tooth: showing the course taken by caries, and the form of the diseased portion, in the earlier stages of the disease.

The physical changes which mark the progress of the disease are first observable on the periphery of the dentine, under the enamel, which latter is, over the affected spot, either itself slightly discoloured, or unusually opaque and white. The diseased dentine generally becomes changed in colour, and assumes a brown hue, more or less deep according to the rapidity with which the decay has advanced. The slower the process of decomposition the deeper will be the colour of the carious portion, and vice versa. The decomposed condition advances

gradually from the surface towards the centre of the tooth, invariably taking the course of the dental tubes; and as the various branches of these converge, in their passage inwards, to join the main tubes, which open on the surface of the pulp cavity, the diseased mass is consequently of conical form.

After a while the surface of the dentine immediately under the enamel becomes softened by the loss of its earthy ingredients; the enamel itself affected, and no longer supported by the subjacent dentine, falls in, and a cavity is formed in the tooth, which increases in depth, following the course of the tubes, and at the same time extends laterally by the extension of the disease on the surface of the dentine, and from thence inwards. By a continuance of this destructive process an opening is formed into the pulp cavity, and eventually the whole of the crown of the tooth is destroyed. After the removal of the earthy constituents the gelatine of the tooth is at first firm and elastic, like cartilage, but it soon softens by decomposition, becomes disintegrated, and is lost in the saliva: thus a cavity is formed in the tooth, which is occupied by the fluids of the mouth and small particles of food. The crown being destroyed, the disease is frequently arrested. The roots of the affected tooth having a higher degree of vitality than the more exposed crown are proof against the influence which lead to the destruction of the latter. You will meet with a few instances where the decay has been completely arrested after destroying only a portion of the crown. In these cases the surface of the so-formed cavity will be found of a dark brown colour, but hard and highly polished, like the surface of eburnated bone.

The fissures in the masticating surface of the grinding teeth, or those surfaces of the teeth which lie in contact with the contiguous teeth, are the situations usually attacked by caries.

The diseased action is not attended by severe pain, but I am disposed to think that even early in the disease there is in almost all cases a feeling of slight uneasiness in the affected tooth, though the degree may be so slight as to escape detection at the time, or lead only to the supposition that some foreign matter has got between the teeth. I am induced to adopt this opinion, though at variance with several authors of distinction, both from the description given by patients who have suffered from caries, and also from personal experience in this unpleasant malady. On several occasions my attention has been drawn to a tooth by a sensation not perhaps amounting to pain, but to slight discomfort only, which has lasted for a few minutes. After a recurrence from time to time of this unpleasant sensation, I have

examined the tooth, and have invariably found that caries has commenced in the situation from whence the uneasiness seemed to proceed.

Again, a few cases are met with in which there is considerable pain attending the progress of caries, long before the pulp is at all affected by exposure, or by the contact of partially decomposed dentine. The tooth is, from the commencement, highly sensitive; the contact of hot or cold fluids induces severe pain, and any attempt to remove the carious dentine, though the disease has existed but for a short time, and is very slight in extent and depth, produces such unbearable pain, that the attempt is for the time obliged to be abandoned.

The causes and nature of caries are variably estimated by different writers, but the theories advanced, in explanation of the subject, may be arranged under one of the two following heads. The first includes those in which caries is in itself considered a vital action and the result of inflammation; the second includes those in which caries is regarded wholly as the result of chemical action, and caused by the presence of decomposing matter lodged in the interstices of the enamel. I should, however, at starting, state that these doctrines were promulgated long before the structural anatomy of the teeth was understood. Fox endeavours to show that dental is in nature similar to osseous caries; he assumes that separation of the periosteum is the cause of caries in the bones, and that separation of the pulp from the surface of the pulp cavity is the cause of dental caries; and further, that in each case the separation is the result of inflammation. Mr. Bell advances the opinion, that caries is the result of inflammation in the dentine itself, and that, from the low degree of organization of that tissue, it is unable to recover from active inflammation. He says, "The true proximate cause of dental gangrene is inflammation, and the following appears to me to be the manner in which it takes place. When, from cold, or any other cause, a tooth becomes inflamed, the part which suffers most severely is unable, from its possessing comparatively but a small degree of vital power, to recover from the effects of inflammation, and mortification of that part is the consequence. Many subsequent writers have, with slight and unimportant variations, supported the views of these great authorities on dental surgery. Mr. Robertson, of Birmingham, stands pre-eminent amongst those who assume that caries is nothing more than chemical decomposition of the tooth, and who assert that the tissues composing the teeth are devoid of life, and that therefore vital action cannot occur in them.

These two classes of opinions are sufficiently at variance with each other. I think,

however, I shall be able to convince you that they are, taken together, both right, but that neither, taken alone, will account for all the phenomena of caries.

I believe that the dentine from abnormal action loses its vitality, and with the loss of vitality the power of resisting chemical action, and that consequently the dead part is under favouring circumstances decomposed by the fluids of the mouth. Further, I conceive that the causes producing the abnormal action may have been applied locally to the tooth itself, or may have had a constitutional origin, and therefore have acted through the nerves or the circulating fluids.

To support these views it will require that I should go a little more at length into the subject. Time, however, cannot be mispent when devoted to the consideration of a disease so universal in its presence, and at the same time so prejudicial to the health and comfort of those whose teeth are affected. You will recollect that the surface of the dentine is composed of the terminal branches of the tubes, and that, in addition to these, there are a vast number of small cells present in the part which is immediately covered by the enamel. With these cells the tubes communicate, and in addition some few pass into the enamel. On the surface of the dentine so composed the first physical changes denoting the existence of caries are observable.

I have shown you that a dead tooth is pervious to fluids. A tooth that has been some little time removed from the mouth, and kept in a dry situation, becomes perfectly opaque, especially the enamel, and the more so if the tooth be taken from the young subject. But if we immerse the dry, and consequently opaque tooth, in water, it will absorb gradually through the external surface a considerable quantity of the fluid, and thereby become slightly translucent. From these circumstances we learn that the fluids of the mouth may permeate the substance of a tooth if there is no vital action to oppose their doing so, and supposing them to have permeated, they may, if they be of an active character, and there be present in the dentine no restraining power, decompose the substance of the tooth. As the solvent menstruum enters from without, the more external part of the dentine will be the first to be affected; again, the fluid finding a ready passage through the tubes travels inwards towards the pulp cavity, contracting in its extent as the tubes converge. Further, we find decay travels under the enamel on the surface of the dentine: this circumstance is fully accounted for by the presence of the numerous cells and their frequent connection with each other in this part. It will be inquired why, as the decomposing agent enters through the enamel, is it that that tissue is not the first to suffer?

Strictly speaking it may be the first, but as a much stronger solvent is required, or the longer application of the same solvent, to produce similar impressions on the enamel, the effect is first perceived in the dentine. If we place a tooth in a weak solution of muriatic acid we shall find that the exposed dentine is affected before the enamel, and the exposed dentine before that covered by enamel. As a further testimony of the correctness of this view of the chemical solution of the earthy ingredients of dead dentine in caries, it may be urged that the action first shows itself in a situation where a fluid or semifluid might be kept in undisturbed contact with the surface of the tooth for some time: thus in the fissures of the masticating surface of the molars, or on the laterally opposed surfaces of the teeth, in either of which situations the debris of food may remain unmolested for hours, and thus enable the fluid with which it is saturated to enter the dentine. If an acid be the solvent, removing the earth of teeth, it would seem probable that its presence might be detected. With this view I have repeatedly applied litmus paper to carious teeth, both before and immediately after their removal from the mouth, and have almost invariably found strong evidences of the presence of a free acid.

So far we can understand the course which dental caries takes from our knowledge of dental structure, and can understand how the decomposition of the dentine is effected; but this point will be even more intelligible after an examination of the affected tissue with the microscope. A transverse section of carious dentine, rendered soft like cartilage from the loss of its lime, presents a cribriform appearance. The tubuli seem enlarged and rather irregular, quite unlike the figure they present in healthy dentine: this would indicate that the solvent enters and acts upon the parietes of the tubes previous to affecting the inter-tubular tissue, and that the parietes of the tubes are therefore the first to disappear. I feel quite

FIG. 32.



FIG. 32.—A portion of dentine deprived of its earthy ingredients by caries.

FIG. 33.



FIG. 33.—Longitudinal section of a bicuspid tooth, with a portion of newly-developed dentine, partly blocking up the opening into the pulp-cavity from caries.

certain that in the cases I have examined, and they are numerous, that the parietes of the tubuli so distinguishable in healthy dentine have almost, if not wholly, disappeared with the removal of the lime.

As regards the source of the solvent agent some little inquiry is needed. The saliva is in many cases, where decay is rapidly progressing in several teeth at the same time, strongly acid. The stomach frequently during the day secretes gastric juice, which, if eructated in a very small quantity, would be sufficient to keep up the dental decomposition already commenced. In seeking the source of the acid you must not forget that the actual amount of phosphate of lime contained in a tooth is small; and, further, that the destructive action is often very slow and spreads over many months. The presence of the least appreciable quantity of solvent would therefore be required, and even this where the decay is slow only at intervals. You will find a statement in Simon's *Animal Chemistry* (translated by the Sydenham Society), to the effect that the saliva under certain circumstances is acid, and that this condition is not uncommon after salivation. But quite apart from the saliva as a source of acid, I think we take a sufficient amount in our food to effect the slow decomposition of dead dentine.

It is not rare to meet with a case in which the saliva is strongly acid, either in itself or from the admixture of fluids from the stomach; and, should the gums have receded and left the necks of the teeth unprotected from the direct contact of the saliva, the exposed portion below the enamel will be deprived of its earthy matter, and the crown will be at last either cut off from the fang by the decomposition of the neck, or will be itself in a great part decomposed. We commonly see instances of this in patients who from indisposition take some of the mineral acids.

Artificial teeth are frequently made of natural human teeth, fixed on a plate fitted to the gums. In these, decomposition goes on just as in the natural teeth; but there is this difference—you may always know where decomposition will take place, namely, wherever the dentine is unprotected from the contact of the oral fluids; and in most persons, though not in all, the artificial teeth will in course of time be wholly decomposed. Thus, in the bicuspid, the decay will commence on the masticating surface, if the pin fixing it to the plate be brought through and insufficiently rivetted: also on the surface fitted to the plate. In either of these situations the saliva may get in and remain in contact with the surface of the dentine.

Thus, we have ample proof that dead dental tissue will, under favourable circumstances, be gradually decomposed by the fluids of the mouth; but there are conditions

which, if present, entirely prevent or greatly retard its decomposition. The saliva may be so charged with phosphate of lime that it is thrown down in considerable quantity wherever the salivary fluid remains at rest. It collects in large masses upon the posterior part of the necks of the lower incisors; and I have seen the cavities of decayed teeth completely filled with the deposit.

Supposing, then, this condition to prevail, the oral fluids, that is, the saliva and mucous secretion, being already saturated cannot dissolve more phosphate of lime; and dental decomposition therefore cannot commence, or, if commenced, cannot advance. It must not, however, be supposed from what I have said that in all cases where phosphate of lime (or tartar, as it is more commonly called) is present on the teeth that dental decay will be arrested: the state of the saliva may have changed since the deposit of the tartar, or, though the saliva may be alkaline, the secretion from the mucous membrane of the gums may be acid; and, supposing such to be the case, we should hardly expect that the secretion thrown out from the membrane between the teeth would be neutralized, as mucus does not readily mix unless agitated with another fluid; and such agitation would not take place in that lodged between the teeth, or in fissures or cavities of teeth.

Dead dentine will also resist the action of the oral fluids, if the surfaces be highly polished. Thus, if the surfaces of artificial teeth constructed wholly of dentine be highly polished, and the polish be constantly kept up by the wearer, the teeth will not be acted upon, unless the decomposing agent be unusually strong; but, if they are polished in one part, and left rough from the file in another, decomposition will quickly commence on the rough, while it is resisted by the polished surface. You will scarcely find a set of artificial teeth that have been worn in which this point is not more or less illustrated. Those surfaces which are exposed to the action of the tongue, or of the springs, are kept highly polished, and in these situations decay is effectually resisted, while the parts lying in contact with the gums are gradually softened, and the teeth become unfit for use. Again, if a tooth from any cause (as by filing) be deprived of enamel, the exposed dentine will in most cases soon be robbed of the lime, unless the surface be polished and kept in that condition. We have frequent opportunities of observing exposed and ebarnated dentine in teeth that have been worn by the action of the antagonist teeth, and these, we see, have resisted decomposition.

From the foregoing facts, we are led to conclude that dead dental tissue, when retained in the mouth, will be decomposed or not, in accordance with the circumstances

under which it is placed, and that the decomposition is effected by agents applied externally.

Before leaving this part of the subject, I will call your attention to a very curious fact in regard to bone. Mr. Gulliver, by a series of experiments instituted to ascertain whether dead bone was absorbed or not, found that a portion of human bone introduced into the medullary cavity of a rabbit's tibia not only remained there without exciting inflammation, but became united to the adjoining bone; and in other experiments, where union was not effected, living bone was deposited upon the dead bone.*

It is thus sufficiently apparent that dead bone may exist without our knowledge of its presence.

I find there is some difficulty in making an accurate comparison between the caries of teeth and of bones. Surgical writers are not very definite upon the point as to how the osseous tissue is affected; neither can I find any good account of the chemical nature of the discharge from a carious bone.

In South's translation of Chelius, I find, in a note from Miescher, under the article *Caries*, the following statement:—"We see it asserted in the works of not a few writers, that in a carious ulcer the pus may be perceived to be, as it were, sandy to the touch, and containing *bony particles*, oftentimes pretty apparent." Again, he says, "The whole surface, therefore, attacked with caries presented various stages of separation of the dead plates, by which the roughness felt with the probe was easily explained, as well as the corroded appearance of the *softened bone*, which, though less conspicuous, is discovered after the separation of the large piece of bone." Now the only means by which a piece of dead bone could be softened would be by chemical decomposition, the process being similar to that engaged in the destruction of dentine, thereby establishing a strong similarity between the caries of bone and of teeth. In caries, a portion of bone loses its vitality: the neighbouring bone becomes inflamed, as do the surrounding soft textures. This leads to the formation of an abscess, which opens on the surface of the body, and also to the separation of the dead bone from the living, by the absorption of a thin layer of the living which lay in immediate contact with and connected the

* *Medico-Chirurgical Transactions*, vol. xxi. p. 16, expt. 16.—A portion of the shaft of the human tibia was weighed and introduced into the tube of a rabbit's tibia; seven weeks after which the animal was killed.

The limb was macerated for three months during the summer, when a part of the circumference of the tibia being removed to expose the foreign bone, it was found firmly adherent to the inner surface of the rabbit's tibia, and the union was effected by true osseous substance, as proved by the analysis of Dr. Davy, E.P.B., 56, in the museum of the Army Medical Department.

dead to the living bone; the former may or may not have been decomposed, the condition depending upon the nature of the fluids with which it has been bathed.

In dental caries, a portion of dentine loses its vitality, but does not, like dead bone, become separated from the living, which difference may be attributed to the very different circumstances under which it is placed, and also to its lower degree of vitality; but, on the other hand, the dead dentine will, like dead bone, be decomposed by solvent fluids, when such are present.

The crown of a tooth, the more external tissues of which are dead,—the pulp and internal dentine being living,—I conceive to be exactly similar in condition to an eburnated bone. The synovia of the joint in contact with the bone is not of a nature to decompose the bone, so no chemical change takes place in the osseous tissue, which, over the exposed surface of the bone, is by friction highly polished.

The saliva bathing the dead surface of tooth may not contain active ingredients; and in that case the tooth will not be decomposed.

Again, bone may be dead, but there may be no inflammation of the neighbouring parts, and the dead will not be separated from the living. This we may infer from Mr. Gulliver's experiments, in which dead was introduced into the medullary cavity of living bone, became perfectly united, and the limb in which the experiment was tried sound and healthy. That state, which is occasional only in bone, is constant in dentine; dead dentine is never separated from the living by the absorption of the connecting layer of the latter.

The analogy in the diseases of the two tissues is further established by the fact that in many cases the presence of caries in the crown of a tooth leads to the deposition of dentine by the pulp opposite the point to which the disease is advancing. The dental deposit may exist only in the form of a few granules of dentine, or may extend to the formation a plate—(Figs. 33 and 34). From what has been said, you will have gathered that it is not at all times easy to know whether any or how much dentine be dead in a tooth; and the same observation may be applied to bone, as, from the foregoing statements, it would appear that all indications of death may be absent. Death of a part by no means implies immediate discoverable physical change. In a dense tissue of naturally low sensibility, we have no means of recognising the loss of vitality, except by the occurrence of physical change in the part. The colour must change, decomposition must commence, or there must be alteration of figure, before we become aware of the event. Even in soft tissue, we only recognise death by finding indications of decomposition in the suspected part.

FIG. 34.

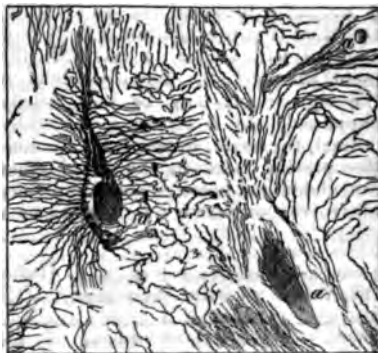


FIG. 34.—Section of newly-formed dentine from the pulp-cavity of a carious tooth: *a, a, a*, vascular canals in the dentine. The dentine from which this section was taken closed up an opening into the pulp-cavity occasioned by caries.

In a tooth, then, you can only pronounce that the crown has wholly or in part died, by observing that discolouration or decomposition is present in that part.

Original Communications.

ON THE NATURE AND PRINCIPLES OF TREAT- MENT OF INFLAMMATION, AND THE ALLIED DISORDERS OF THE CIRCULATION.

BY GEORGE ROBINSON, M.D.

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[Continued from p. 17.]

PART IX.

THE next group of experiments exhibit the effects of an extreme and sudden increase in the supply of blood to an organ previously healthy. Having failed to produce any pathological phenomena, either by obstructing the aorta below the origin of the renal arteries, or by removing one kidney, I thought it possible that, by conjoining the two operations, and selecting stronger animals, more decided results might be obtained. In the paper published in the *Medico-Chirurgical Transactions* for 1843, seven such experiments are related, in four of which the urine contained albuminous matters: but, as these successful experiments were not considered sufficiently numerous to

counterbalance the failures, I have felt it necessary to repeat the observation, and trust that the additional facts now adduced will suffice to establish the point in question. The conditions of the experiment may be very briefly explained. In a strong and healthy animal, the aorta, exposed by an incision passing between the left lumbar and abdominal muscles, was completely obstructed, either by a ligature or by a

small spring forceps, and the kidney on the same side then removed, its vessels being previously secured. The immediate effect of these measures would necessarily be an extreme accumulation of blood in the aorta, and a greatly increased supply to the vessels of the *right* kidney, which, of course, remained in its natural position, untouched and uninjured. The results are expressed in the following table* :—

No. of Experiment	Weight of left kidney.	Weight of right kidney.	Difference in favour of right kidney.	Condition of urine.
1*	Grains. 30	Grains. 30	Grains. 0	Albuminous, and contained coagula of blood.
2*	35	42	7	Highly albuminous.
3*	82	112	30	Albuminous, and contained a fibrinous coagulum, and one of blood.
4*	54	85	31	Albuminous and bloody.
5	90	133	43	Stained with blood, but not distinctly albuminous.
6	123	130	7	Albuminous.
7	127	158	31	Highly albuminous.
8	118	152	34	Albuminous, and contained coagula of blood and fibrine.
9	94	150	56	Highly albuminous.
10	86	84	—	Albuminous, and contained a long narrow coagulum of blood, and several smaller ones.
11	Not ascertained. Notes lost.			Highly albuminous.
12				Contained numerous minute coagula of blood.
13	144	150	6	Highly albuminous.

When the urine is described as simply albuminous, it is to be inferred that there was no discoloration from any admixture of blood. The albuminous matters which it contained could only have been derived from the right kidney; for the left ureter was included in the same ligature with the blood-vessels of the left kidney at the time of removing that organ; and the existence of ecchymoses in the substance and on the surface of the remaining kidney, the presence of bloody and fibrinous coagula and of albuminous urine in the right ureter (as observed in Experiments 3, 7, and 9), and the fact of highly albuminous urine being, in the last-mentioned experiment, found in the right ureter, while the fluid taken from the bladder presented no albuminous impregnation, taken conjointly, render it impossible to doubt the accuracy of this statement.

These experiments, then, show that a sudden and considerable increase in

the supply of blood to a part does occasion immediate pathological phenomena, in this respect differing materially from a slow and gradual determination of blood; and a comparison of the amount of increase in the weight of the remaining kidney with the nature of the effused matters will also prove that here, as after venous obstruction, there is no constant connection between these two circumstances; the only cause to which we can attribute the varieties noticed in the pathological effects being a difference in the degree of lateral pressure exercised by the impeded capillary blood-columns. This difference will of course mainly depend upon the activity of the circulation at the time of performing the experiment; but it is here interesting to inquire, how an increased flow of blood into a particular artery causes an

* The four first experiments on the list are those previously published; in the second, the occlusion of the aorta was not complete.

unnatural amount of lateral pressure of the capillary streams supplied from that vessel. And an examination of this point is the more necessary, as it involves the solution of a pathological problem of some importance, viz. the *modus operandi* of determination of blood in inducing inflammation.

Whatever may be the action of its immediate cause, the pathological condition characterizing determination of blood is undoubtedly an unnatural accumulation of that fluid in, and consequent distension of the arteries of, a particular part or organ; the blood-columns contained within the minute porous capillaries of the affected part moving more rapidly than usual, and being therefore free from any material increase in their lateral or distending pressure. And as the facts and arguments adduced in the preceding part of this communication suffice, I think, to prove that inflammation is essentially constituted by an unnatural increase in the lateral pressure of the columns of blood contained within the *thin permeable capillaries*, the question may be reduced to a simpler form, and we shall merely have to inquire how a certain physical derangement of the arterial circulation in a particular part or organ is enabled to produce a similar affection of the capillaries continuous with the distended arteries.

The smaller arterial ramifications, in their healthy state, oppose a constant resistance to the distending pressure of the mass of blood pent up in the large arteries, and thus preserve the capillaries from an irruption of highly compressed fluid, which, if not at once structurally injurious, would be wholly subversive of their natural functions. But when this protection is, in a certain set of vessels, removed by the yielding of the smaller arteries, and the admission into them of an increased quantity of blood, the capillaries become directly exposed to the full force of the dilating columns. And if that lateral or dilating pressure be very great, or long continued, the opposing contractility of the capillaries becomes exhausted, and the accumulated and compressed blood, forcing an entrance into the debilitated vessels, rapidly occasions the pathological phenomena characteristic of inflammation. This view at once harmonizes with and explains the fact of inflammation never supervening upon determination but

when the latter disorder has been intense, frequent, or long continued. Since, then, the existence of an adequate distending force in the arterial blood-columns cannot be denied, and since the continued application of this hydraulic pressure must evidently have the effect of gradually and successively dilating the porous capillaries, and admitting into them a quantity of compressed blood, conditions which, while incompatible with the discharge of the healthy functions of those vessels, are demonstrably productive of the pathological condition constituting inflammation, it must be admitted that the occasional appearance of this latter more serious disorder, as the effect of determination of blood, is clearly explicable by, and the result of, this physical process.

Another occasional effect of determination of blood is hæmorrhage, from the rupture of some of the distended arteries. This is of course most likely to occur when the arterial coats are diseased, or when the disorder affects vessels which are naturally weak; as in the brain.

But determination of blood sometimes produces a third effect, namely, the hypertrophy of the part thus unduly supplied. As we are at present merely inquiring into the nature, causation, and mode of operation of that disorder of the circulation, I cannot here enter upon the consideration of the circumstances which distinguish physiological from pathological hypertrophy. It may be sufficient to observe, that the physico-vital condition present is in both cases the same. It is, however, necessary to mention the distinctions between hypertrophy and inflammation, as induced by determination of blood. These two states differ—1. In the relative intensity and duration of their immediate cause. Hypertrophy is the result of a slow, gradual, and continued increase in the supply of blood to a particular part, while a sudden and considerable increase in the influx of blood gives rise to the phenomena of inflammation. 2. The condition of the vessels of the affected part varies in the two cases. When determination of blood ends in inflammation, there is a considerable disproportion between the aggregate area of the capillaries of the affected part and that of the arteries supplying them: the former being in a greater or

less portion of their extent contracted and unyielding, and thus rendered incapable of transmitting the blood accumulated in the former; while, in hypertrophy, both arteries and capillaries seem to dilate nearly in the same proportion, and the arterial blood being thus enabled rapidly to escape, the intensity of its pressure becomes very much diminished. And this circumstance enables us to understand how, 3dly, hypertrophy and inflammation differ in their effects. In the former case, from the cause just mentioned, the lateral pressure of the blood entering the capillaries is very slightly increased, and a more active performance of the natural process of nutritive effusion is the only effect induced. This increased effusion may, in one part, furnish more material for a secretion; at other points it will supply the tissues with an unusual quantity of nutritive fluid; and when a gland is the organ unduly supplied with blood, both secretion and nutrition will proceed with inordinate activity. But in inflammation the lateral pressure of the capillary blood-columns is much increased, and it therefore presents, in its effects, a more marked deviation from their natural functions. The quantity of effused matter is more considerable, and instead of a solution of albumen, the fibrinous portion of the liquor sanguinis is also effused. As the processes of healthy or nutritive, and morbid or inflammatory effusion, are, however, both referable to the same immediate cause, inflammation and hypertrophy virtually differ rather in degree than in nature; the greater intensity of the expelling pressure, and the more considerable extent of effusing surface, present in the former affection, giving rise to its distinctive peculiarities.

It now only remains to consider the means by which the restoration to a natural state of the vessels affected in determination of blood is accomplished; and the examination of this question will at once conduct us to the principles on which its treatment is to be conducted.

From the remarks which have been made in explaining the production of its other terminations, it is evident that the local arterial hyperæmia which constitutes this disorder can only be removed by the contraction of the affected vessels, and the resumption and maintenance of their normal cali-

bre. The removal, then, of every circumstance which can impede this reaction, and the employment of every measure which may appear calculated to facilitate and favour it, are clearly the two great principles to be observed in the treatment of this affection.

As regards the first point, the removal, where practicable, of the exciting cause, and the diminution of the pressure of the fluid columns distending the affected vessels, are the chief ends to be attempted. The former, as a general therapeutic rule, requires no comment; on the most advantageous method of effecting the latter object a few words may not be altogether useless. Determination of blood, like inflammation, may exist *with or without* general plethora; and in the treatment of both affections a constant reference to the quantity of circulating fluid is indispensable to successful practice. When, therefore, determination of blood exists with general plethora, in addition to other remedial measures it will be found necessary to use depletion by means of blood-letting, purgation, &c., and to enforce low diet, in order to reduce and maintain at that diminished amount the *general* pressure of the arterial blood. But, on the other hand, where there is merely a *local* increase in the pressure of the arterial blood, and that referable rather to the relaxation than to the forcible dilatation of the affected vessels, the equalization of the circulation, by directing an additional quantity of blood to other and distant parts of the body, and thus diminishing the pressure upon the distended arteries, will sufficiently fulfil this indication. We accomplish this end by the use of derivatives, of which the best and most effectual, where it can with propriety be applied, is gentle and continued bodily exercise. In affections of particular organs the derivation is variously directed. Thus, in determination of blood to the head, by a half instinctive feeling the supply to the lower extremities is artificially increased. When any internal organ becomes the seat of this disorder, by warmth or other stimulants the cutaneous vessels are stimulated so as to cause their enlargement. The general principle is, to determine either to the most distant parts, or to those which, from exercising a function similar to that of the affected organ, may, by their increased

activity, diminish or remove the physiological necessity for its augmented supply of blood. The practice proposed by the late Dr. Parry, of Bath, which consists in the compression of the arterial trunk leading to the seat of the determination, and which has been occasionally tried with success in this affection of the cerebral arteries, accomplishes directly what derivatives can only effect secondarily, namely, a diminution of the pressure acting upon the affected vessels. Its general impracticability is the only argument against its universal adoption.

The second indication in the treatment of this disorder is to assist the arteries as much as possible in their re-action. In most cases we can only indirectly promote this salutary effort by withdrawing the distending force; but in determination to the head the application of cold to the surface is found to exercise a direct action in favouring the contraction of the enlarged vessels. The influence of this agent is not confined to the capillaries; it is capable of diminishing the calibre of arteries of considerable size, whether immediately applied to them, or propagating its influence along the coats of the smaller vessels.

I have now endeavoured to trace the morbid effects resulting from an obstruction to the blood's passage through the different parts of the circulating system.

Venous obstruction is important chiefly from its disordering the capillary circulation. And such is the admirable arrangement adopted by nature for the prevention of this occurrence, that there are very few parts in which the closure of one vein will completely arrest, or even materially disturb, the circulation through the capillaries.

The importance of these disorders of the circulation cannot be over estimated; for where they do not rapidly destroy life, they seldom fail to leave behind the material for structural change, and thus insidiously pave the way for numerous distressing and fatal maladies. In their earlier stages they are generally remediable; but the removal of the effects which result from their protracted continuance, or frequent recurrence, must ever be most difficult. Like many other diseases, their causes may be more easily removed than their effects.

[To be continued.]

CASE OF
DISLOCATION OF THE FOOT IN A
MAN AGED 95;

AND EXAMINATION OF THE JOINT NEARLY
TWO YEARS AFTERWARDS.

By CHARLES TAYLOR,
Surgeon to the Royal South London Dispensary.

H. W., æt. 95, a short, spare, and active man, of general good health, of regular habits, and by occupation a barber, came under my care, at the Royal South London Dispensary, April 25, 1845. In the January preceding, he was knocked down by a distiller's waggon, the wheel passing over his right leg. On being carried home, a surgeon visited him, and there being no displacement of the foot, but much swelling, stated that it was merely a sprain, and no fracture or dislocation. He was ordered to apply an embrocation to the limb; since which time he has kept his bed, no splints or other mechanical contrivance being applied, and the foot has, by degrees, become displaced to the outer side of the leg, and everted, assuming the ordinary position of dislocation of the foot outwards, the inner malleolus being chipped off, and the fibula fractured about the junction of the middle and lower third. The accompanying im-



perfect sketch, taken three months after the accident, will give an idea of the leg at the time. The foot was considerably everted, the plantar surface turning directly outwards, the dorsum inwards and upwards. The heel was about three inches above the usual situation of the malleolus externus; the inferior part of the tibia had the malleolus internus broken off, the surface granulating. The leg was about four inches shorter than the other. Over the external malleolus were two small openings, from which a grumous purulent discharge issued, and bone could be felt exposed. The foot was very œdematous. No crepitation could be felt; indeed, from the time since the occurrence of the accident, it could scarcely be expected. The old man, although cheerful, was extremely low; tongue dry and brown; pulse above 100; loss of appetite; and he had no sleep. Under ammonia and serpentina, morphia at night, six ounces of wine daily, and the water-dressing, he improved, and in the course of a week a slough was thrown off from the lower part of the tibia. The tongue became moist; the wound assumed a healthy aspect; sleep was obtained, and the functions were performed properly. In the June following he had an epileptic convulsion, being the third attack since a fall one year before, which left him for a short time partially paralysed on the right side. By the end of July the wounds were healed, and he continued, with the exception of a fit occasionally, well in health, but obliged to keep his bed; when, in September 1846, after a more violent fit than usual, he was comatose for some time, and afterwards occasionally delirious, the subject of mental illusions, and other symptoms of cerebral disease. He had also discharges of blood from the bowels, and jaundice, together with occasional intermission of pulse: his health gradually declined, and on Nov. 8th, 1846, he died. As a proof of his freedom from paralysis, and his general power over his mental faculties, I may mention that he was able to shave himself within a few days of his death.

The leg was examined three days after death, permission not being obtained to examine the other parts of the body. The leg was œdematous, and over the external malleolus, and

the inferior part of the tibia, the skin was so thin as to tear on being dissected. The integuments and fascia being removed, it was evident there had been no injury to the soft parts. The tendons of the tibialis anticus, extensor longus digit. pedis, and extensor proprius pollicis, passed in their usual course down to their insertions: the anterior tibial artery and nerve were also *in situ*. The peronæus longus and brevis passed downwards, their tendons then turning upwards and outwards to gain their usual course and insertion. All were in their proper relative position, but their actual position was changed, being carried outwards with the displaced foot, each running in its own proper groove. The fibula had been fractured about 2½ inches up, the upper portion was drawn to the tibia, and firmly united; from this union, new bone had been thrown out, and formed a junction with the angle between the upper and inner articular surfaces of the astragalus, which required much force to separate. The malleolus internus, broken off from the tibia, was attached to the astragalus, its ligaments being perfect: its articular surface was not altered, having the cartilage on it, and was moveable. Its situation is shown in the diagram. No trace of the inferior portion of the fibula could be found, except perhaps some rough bone over the external surface of the astragalus might have been an unabsorbed portion of it. The upper articulating and outer articulating surfaces of the astragalus were quite destitute of articular cartilage, or synovial membrane, but were covered with a cartilaginous substance, similar to inter-articular cartilage. The tendons of the muscles on the posterior parts of the foot were, as in front, directed outwards.

The gradual production of the dislocation is worthy of notice, as there can be no doubt, if the fracture had been discovered in the first instance, a very slight amount of mechanical contrivance would have prevented the muscles drawing the foot from its proper position, not the least displacement having taken place at the time of the accident, and dislocation not being complete until some days after.

The typhoid symptoms present at my first visit, the exposure of bone

thus rendering it a compound dislocation, and the subsequent improvement under stimulants and morphia, are evidences of nature's powers to carry a man even at his age through the necessary stages of cure, for in him any operation was out of the question.

The post-mortem examination is instructive, although, from the gradual misplacement, what might have been expected; as it shews nature's mode of acting in such a case, and affords evidence that in a younger person, where the recovery of the foot would have been desirable, and the attempt justifiable, the taking off a portion of the lower end of the tibia, with forcible separation of the union between that bone and the astragalus, would have obtained for the patient the restored use of his limb. A cast of the leg is in my possession.

AMPUTATION PERFORMED ON A PREGNANT FEMALE

UNDER THE INFLUENCE OF ETHER.

By THOMAS BELL, Esq.
Surgeon, Felstead.

MARY ANN LOYD, æt. 27, the mother of two children: between six and seven months advanced in pregnancy: naturally of a delicate constitution. Since the first appearance of the menses, every spring and autumn she has been subject to an eruption about the face and chest, sometimes so severe as to oblige her to keep within doors, not from the actual pain alone, but from the disfigurement caused by the rash.

About two years since she first felt slight pain in the left knee, which was considered by herself and friends to be rheumatism; this after a time got better, without the assistance of a surgeon, merely leaving a little uneasiness about the part upon extra exertion. So matters went on till last June, when, during my attendance upon her for loss of voice, she informed me that one of her knees was very painful, and asked for something to apply to it. I gave her an embrocation, and upon inquiring a few days after, was told the pain had left her. I heard nothing more of the case for two months, when she presented herself at my surgery, complaining of a recurrence of the pain in

her knee. Perceiving her to walk rather lame, I requested to examine the joint, and found she was suffering from inflammation of the synovial membrane. I ordered her to go home and keep in bed, and prescribed leeches and every other means considered advisable for that affection, not omitting the proper position of the limb and perfect quietude, the greatest auxiliaries in such cases. Still, in spite of all the remedies, both constitutional and local, the disease progressed, the cartilages became affected with ulceration, the head of the tibia and condyles of the femur with caries; the joint increased to about three times the natural size, and was of course immoveable. The poor woman, almost worn out with suffering, unwilling earlier to consent to the removal of the limb from the extra pain anticipated by the operation, would inevitably have sunk under her tortures in a very short time, had not the assurance that amputation could now be performed without her feeling the operation, prevailed in gaining her consent.

Upon this I consulted with my friend, Mr. Manthorpe, of Bocking, who had kindly favoured me with his assistance in the treatment of the case, as to the expediency of removing the limb whilst the patient was under the effects of ether. The woman being so far advanced in pregnancy raised a doubt in our minds upon that head, not having heard of the ether inhalation being ever before applied upon a patient in a similar situation. Viewing every point, and the dangerous nature of the case, the patient daily becoming weaker, her increasing sufferings rendering life a burthen to her, the ordinary operation being considered now by us, even if she would give her consent, far too great a shock for the system to bear, death staring us in the face, we agreed to try the ether; and on Monday the 25th of January amputation of the thigh was performed.

The patient being seated in as convenient a position as a cottage could afford, and every thing necessary for the operation placed in readiness, Mr. Manthorpe proceeded to administer the ether by "Hooper's Inhaler." In less than two minutes the patient was perfectly insensible, the transition from a state of consciousness into a sound

sleep being imperceptible. The tourniquet was then applied, and I commenced the removal of the member. So quiet was the patient, that with one hand Mr. M. retained the inhaling tube in the mouth, and with the other the anterior flap in its proper position, an assistant holding the leg.

The limb being removed, and the arteries taken up, the ether was discontinued, when the patient quickly returned to her senses. Upon being told the operation was over she was greatly astonished, not being at all aware any thing had been done to her. A more perfectly successful case there cannot be; not the slightest indication of pain was evinced. The poor creature, upon being asked whether she had felt anything, said, "Nothing had touched her as she knew of." She is going on well, gestation being undisturbed. Upon being questioned the day after as to the sensations the ether produced, she stated she felt very comfortable; she could hear those around her talk, but could not understand what the conversation was about. She was unable to speak herself, though desirous to do so.

It is but justice to Mr. Hooper to state, that his ether inhaler answers admirably the purpose for which it is intended; and its being so easily applied is a great recommendation to the apparatus. I have used it in several cases of extraction of teeth with success, the first effect of the ether upon the lungs varying according to the temperament of the individual: in some cases insensibility quickly and without excitement follows; in others the patient in about a minute strives violently, evidently from congestion about the bronchial tubes. This state in a short time subsides, and a calm sleep ensues.

In one case, a lad *ætat.* 20, there was a consciousness of every thing that occurred about him; he was loquacious, and made a free use of his eyes—in fact, appeared wide awake. The countenance remaining unchanged, the process was continued for a quarter of an hour. The pulse was diminished in force, increased in frequency. The extremities began to lose their heat. The tube was then removed from the mouth, and a large molar tooth extracted without creating pain.

I have not used the ether in any other case; but having a case of *tic douloureux*, I purpose testing its effects upon that obstinate affection. I am not very sanguine as to the result being favourable, though, could it be applied for several times at the accession of each attack of *tic*, which in the above instance comes on every three hours, a beneficial result might be eventually obtained: that is, if upon the first or second trial a mitigation of the pain is the issue.

So great a boon is this discovery to the community at large, and to the profession in particular, so safe and easy of application (provided the contents of the thorax are healthy), that it is the duty of every practitioner to resort to its assistance, and investigate its influence in those painful nervous affections over which medicine too frequently is of little avail. That the breathing of air impregnated with ether does not act prejudicially in cases of pregnancy, I think the case related is a strong proof.

ON A
NEW METHOD OF TREATMENT FOR
PROLAPSUS ANI.

By T. G. HAKE, M.D.

Physician to the Suffolk General Hospital.

PROLAPSUS of the bowel is a disease for which both those who give and those who receive advice must allow that no adequate means of relief has been hitherto proposed. Some years ago, disappointed in the contrivances and remedies of the day, while more than one patient suffering from prolapsus ani made application to me for relief, I suggested to Mr. Weiss the construction of a spring pad, consisting of a coil of wire surmounted by an ivory nipple. The pad was made, and fixed upon an understrap attached to a belt. The power of the spring was about equal to the pressure of the finger when applied to maintain the rectum in its natural situation. I am informed that this instrument is largely used, and preferred by patients to every other contrivance for prolapsus ani. It had been found so effectual by a patient of my own, that, when I called on him to propose the simpler contrivance which

will be described presently, he acquainted me that he was well. His case was of many years standing; his disease deprived him of exercise and all active enjoyment. He attributed his cure to the support afforded by the pad and medicine simultaneously prescribed.*

Such are the distressing consequences of this malady, that any simple and inexpensive means of cure must be hailed as a boon by a large number of sufferers,—so large as to support a separate class of practitioners.

It is not my purpose to describe the disease itself and its accompaniments, so well known; but allusion to its ill effects, both physical and moral, may not be inappropriate, as these make up the sum of suffering for which means of relief are proposed.

Protrusion of the bowel may involve the production of inflammation. This is often caused from constriction of the gut by the sphincter ani, and the irritation which the part becomes liable to subsequently from friction. The parts thus strangulated and inflamed are too tender to be replaced, and need a process of depletion and fomentation before they can be returned. Such an accident, recurring from time to time, conjointly with the irritation to which the bowel is exposed, gives rise to thickening of the mucous membrane; consequently, the parts are with difficulty restored even for a minute.

Hæmorrhoidal tumors are common causes of prolapsus ani, and when they protrude are liable to the changes above alluded to.

The moral effects are yet more lamentable. The labourer is rendered by the disease unfit to work; the professional man unable to follow his calling. Whatever the duties of his station, the patient shuns society, and often becomes a hypochondriac.†

The mode of treatment which I have used for some time, and with complete success, both in prolapsus ani and protrusion of hæmorrhoidal tumors, was first suggested to me by a friend and patient, whose experience in his own case is embodied in a letter which is annexed.

* Potass. Bicarb. scrup. i.; Tinct. Rhei, os. ss. ante prandium indies sum.

† A nobleman some years ago committed suicide, it is supposed, for no other cause than the misery which this disease entailed, and for which he could obtain no relief.

The plan in question is described in a few words: it consists in returning the bowel or hæmorrhoidal tumors with great care after the daily motion; in assisting its return by means of soap-lather; in applying a coil of moist sponge firmly upon the anus, and, while retaining it there with one hand, to bring the nates together by means of a broad strip of adhesive plaster, as in approximating the edges of a wound.

This method I have now tested in several cases: it has never failed of success.

The following letter from the patient who first put the plan to trial, and by whose ingenuity it was conceived, is worthy of an attentive perusal:—

"The account I promised you is as follows:—More than seven years ago, after very severe discipline, which I suppose was necessary to treat an illness that lasted many weeks, I began to be troubled with a prolapsus ani to a distressing extent. I had suffered from symptoms of it occasionally—slight symptoms, I mean, hardly worth mentioning—at times during several years before, but I took no notice of them, not knowing, indeed, what they indicated; and from time to time they came and disappeared. But in 1839, after the illness I have alluded to, there was a prolapsus every day after breakfast, and I mentioned it to a surgeon, who gave me a wash for it, but it did no good, and he did not warn me sufficiently against what it might come to. The consequence was that it went on, and did come to so much as to make my life very miserable. It generally cost me much time and trouble to restore the part to its place, and when it had been restored, there was no certainty how long it would stay there; in addition to this, there was irritation and bleeding, and running of a yellowish sort of lymph, as often as the evil returned, so that all standing, walking, and riding, was sure to lead to great suffering, and the prolapsus at times was very large. I could not find that I derived any considerable, and certainly no lasting benefit, from any treatment I was under; and though, by Mr. Copland's advice, I made use of the belts and bandages that are advised in such cases, they brought me, upon the whole, nearly as much annoyance as they relieved. This made me determine to go to work for myself, and, with more

counterbalance the failures, I have felt it necessary to repeat the observation, and trust that the additional facts now adduced will suffice to establish the point in question. The conditions of the experiment may be very briefly explained. In a strong and healthy animal, the aorta, exposed by an incision passing between the left lumbar and abdominal muscles, was completely obstructed, either by a ligature or by a

small spring forceps, and the kidney on the same side then removed, its vessels being previously secured. The immediate effect of these measures would necessarily be an extreme accumulation of blood in the aorta, and a greatly increased supply to the vessels of the *right* kidney, which, of course, remained in its natural position, untouched and uninjured. The results are expressed in the following table* :—

No. of Experiment	Weight of left kidney.	Weight of right kidney.	Difference in favour of right kidney.	Condition of urine.
	Grains.	Grains.	Grains.	
1*	30	30	0	Albuminous, and contained coagula of blood.
2*	35	42	7	Highly albuminous.
3*	82	112	30	Albuminous, and contained a fibrinous coagulum, and one of blood.
4*	54	85	31	Albuminous and bloody.
5	90	133	43	Stained with blood, but not distinctly albuminous.
6	123	130	7	Albuminous.
7	127	158	31	Highly albuminous.
8	118	152	34	Albuminous, and contained coagula of blood and fibrine.
9	94	150	56	Highly albuminous.
10	86	84	—	Albuminous, and contained a long narrow coagulum of blood, and several smaller ones.
11	Not ascertained. Notes lost.			Highly albuminous.
12				Contained numerous minute coagula of blood.
13	144	150	6	Highly albuminous.

When the urine is described as simply albuminous, it is to be inferred that there was no discoloration from any admixture of blood. The albuminous matters which it contained could only have been derived from the right kidney; for the left ureter was included in the same ligature with the blood-vessels of the left kidney at the time of removing that organ; and the existence of ecchymoses in the substance and on the surface of the remaining kidney, the presence of bloody and fibrinous coagula and of albuminous urine in the right ureter (as observed in Experiments 3, 7, and 9), and the fact of highly albuminous urine being, in the last-mentioned experiment, found in the right ureter, while the fluid taken from the bladder presented no albuminous impregnation, taken conjointly, render it impossible to doubt the accuracy of this statement.

These experiments, then, show that a sudden and considerable increase in

the supply of blood to a part does occasion immediate pathological phenomena, in this respect differing materially from a slow and gradual determination of blood; and a comparison of the amount of increase in the weight of the remaining kidney with the nature of the effused matters will also prove that here, as after venous obstruction, there is no constant connection between these two circumstances; the only cause to which we can attribute the varieties noticed in the pathological effects being a difference in the degree of lateral pressure exercised by the impeded capillary blood-columns. This difference will of course mainly depend upon the activity of the circulation at the time of performing the experiment; but it is here interesting to inquire, how an increased flow of blood into a particular artery causes an

* The four first experiments on the list are those previously published; in the second, the occlusion of the aorta was not complete.

unnatural amount of lateral pressure of the capillary streams supplied from that vessel. And an examination of this point is the more necessary, as it involves the solution of a pathological problem of some importance, viz. the *modus operandi* of determination of blood in inducing inflammation.

Whatever may be the action of its immediate cause, the pathological condition characterizing determination of blood is undoubtedly an unnatural accumulation of that fluid in, and consequent distension of the arteries of, a particular part or organ; the blood-columns contained within the minute porous capillaries of the affected part moving more rapidly than usual, and being therefore free from any material increase in their lateral or distending pressure. And as the facts and arguments adduced in the preceding part of this communication suffice, I think, to prove that inflammation is essentially constituted by an unnatural increase in the lateral pressure of the columns of blood contained within the *thin permeable capillaries*, the question may be reduced to a simpler form, and we shall merely have to inquire how a certain physical derangement of the arterial circulation in a particular part or organ is enabled to produce a similar affection of the capillaries continuous with the distended arteries.

The smaller arterial ramifications, in their healthy state, oppose a constant resistance to the distending pressure of the mass of blood pent up in the large arteries, and thus preserve the capillaries from an irruption of highly compressed fluid, which, if not at once structurally injurious, would be wholly subversive of their natural functions. But when this protection is, in a certain set of vessels, removed by the yielding of the smaller arteries, and the admission into them of an increased quantity of blood, the capillaries become directly exposed to the full force of the dilating columns. And if that lateral or dilating pressure be very great, or long continued, the opposing contractility of the capillaries becomes exhausted, and the accumulated and compressed blood, forcing an entrance into the debilitated vessels, rapidly occasions the pathological phenomena characteristic of inflammation. This view at once harmonizes with and explains the fact of inflammation never supervening upon determination but

when the latter disorder has been intense, frequent, or long continued. Since, then, the existence of an adequate distending force in the arterial blood-columns cannot be denied, and since the continued application of this hydraulic pressure must evidently have the effect of gradually and successively dilating the porous capillaries, and admitting into them a quantity of compressed blood, conditions which, while incompatible with the discharge of the healthy functions of those vessels, are demonstrably productive of the pathological condition constituting inflammation, it must be admitted that the occasional appearance of this latter more serious disorder, as the effect of determination of blood, is clearly explicable by, and the result of, this physical process.

Another occasional effect of determination of blood is hæmorrhage, from the rupture of some of the distended arteries. This is of course most likely to occur when the arterial coats are diseased, or when the disorder affects vessels which are naturally weak; as in the brain.

But determination of blood sometimes produces a third effect, namely, the hypertrophy of the part thus unduly supplied. As we are at present merely inquiring into the nature, causation, and mode of operation of that disorder of the circulation, I cannot here enter upon the consideration of the circumstances which distinguish physiological from pathological hypertrophy. It may be sufficient to observe, that the physico-vital condition present is in both cases the same. It is, however, necessary to mention the distinctions between hypertrophy and inflammation, as induced by determination of blood. These two states differ—1. In the relative intensity and duration of their immediate cause. Hypertrophy is the result of a slow, gradual, and continued increase in the supply of blood to a particular part, while a sudden and considerable increase in the influx of blood gives rise to the phenomena of inflammation. 2. The condition of the vessels of the affected part varies in the two cases. When determination of blood ends in inflammation, there is a considerable disproportion between the aggregate area of the capillaries of the affected part and that of the arteries supplying them: the former being in a greater or

by a policeman, and carried to Mr. Wilmot's and to Mr. Griffiths', surgeons, who gave a certificate that she was of unsound mind: and that she was then taken to York House, Battersea, a private lunatic asylum, kept by Dr. Millingen, and all access to her had been refused to him, and to every person wishing to see her; that he had applied to the Commissioners of Lunacy for an order to see her, and they had refused it; that he believed the certificates for apprehending her were insufficient, and that on her apprehension she had requested him to take legal measures to obtain her release.

There were further affidavits from non-professional persons, stating that they believed the lady to be perfectly sane.

Mr. Serjeant TALFOURD now handed in counter affidavits. An affidavit of the Rev. John Clark Rowlatt, assistant minister at Battersea, stated that he had called on Dr. Quale to see the lady and was informed she was labouring under bodily disease. She was at a house in Heaton Street, in a back room on the second floor, lying in a state of helpless imbecility, and in a most filthy condition. *No female was attending her, and, with the exception of Dr. Quale's bedroom, which was furnished, the house seemed to be uninhabited.* From her rambling and incoherent manner and dirty state, it was evident that she was of unsound mind. Dr. Quale informed him that he had been engaged as her medical attendant at a salary of £300 a year; but that the lady had now only an annuity of £100 a year, which was insufficient to support her. He expressed his opinion that something must be done respecting her, and afterwards went with Mr. Wilmot to the next house, where he ascertained from the landlord *that he let Dr. Quale two rooms in the adjoining house, without attendance, at 14s. a week; and that if he had known that a sick woman was to be carried there, he would not have let the house.* That Dr. Quale often left Mrs. Shuttleworth for hours together alone, and without food, and that her cries during the night were most distressing. That, from information, he and Mr. Wilmot had made inquiry at Coutts's bank, and had ascertained that an annuity of £100 a year was paid to the lady, and a friend of the lady had offered to aid

in providing her more fitting requisites, but that he would not interfere while she resided with Dr. Quale, supporting him out of her allowance. That he had signed a certificate that she was of unsound mind. That subsequently she had informed him Dr. Quale used to stamp on her feet, and ill use her if she would not give him money; that before she was taken to the asylum, she had been carried to a house where there were several women, who tried to make her drink, and to sing queer songs, which she could not learn. She then produced a handkerchief, on which was the astronomical sign of Leo, and said, "this is my protector; while I have this nothing can do me harm." In his opinion, she was in a decided state of imbecility.

The affidavit of Mr. Wilmot, a surgeon, was to a similar effect. It stated, that he and the Rev Mr Rowlatt determined to ascertain if she had the allowance of £100; that if so she might be properly taken care of; and if not, that the parish authorities might interfere and look after her. That being informed at Coutts's that she was possessed of the said annuity, the present steps had been taken. That she appeared in fear of Dr. Quale and that her incoherent answers left no doubt on his mind that she was insane. That the day before she was taken to York House, he learned that she had been forced into a cab, and driven off screaming. That the cabman had been found, and he stated that he drove her and Dr. Quale, the lady screaming to Portland Road, where he put them down, and Dr. Quale called another cab. That other cabman had been found, and stated that he drove Dr. Quale and the lady screaming to a house, No. 19, Grafton Street, Fitzroy Square. That she was denied to be at this house; that he had ascertained from the police that the house was believed to be a common brothel, and that in consequence measures had been taken to secure the lady; and she was taken as she was being driven off in a cab over London Bridge for the packet to Dieppe. That he signed the certificate that she was of unsound mind. The affidavit of Mr. Griffiths, surgeon, Pimlico, in like manner stated his belief that the lady was of unsound mind, from her incoherent manner, and that he had signed the certificate,

The affidavit of Dr. Millingen stated, that the lady was given into his custody in March last, at York House, a licensed asylum, as of unsound mind, and that she so continued. The affidavits of Dr. Pritchard and Mr. W. G. Campbell, two of the Commissioners of Lunacy, stated, that *they had visited her, and that she was of unsound mind.*

There were other affidavits, of the Hon. and Rev. William Eden and the Rev. Mr. Rowlatt, that Dr. Quale went to York House, Battersea, and in their presence said the lady owed him £2500 for medical attendance, *and that he considered her as his property*, and that he was determined to overthrow the Commissioners, and *that taking her away from him deprived him of his subsistence.*

Mr. PARRY now moved that the lady be discharged, on two grounds: first, *that the lady was of sane mind*; and, secondly, that the certificates were insufficient to authorise Dr. Millingen to detain her.

Their LORDSHIPS expressed a wish to see the lady themselves in an adjoining room, and their Lordships, with the counsel engaged, left the Court for that purpose. After a short absence, their Lordships returned, when Lord Chief Justice WILDE said, it was perfectly plain, from the interview they had had, *that the lady had no mind at all.* She was incapable of wishing anything, and had neither memory nor appreciation. The best thing for her was, that she should return to York House. She had no wish of her own; and in the morning, if any application was to be made, they should be ready to hear it.

Mr. PARRY.—The lady was there on a return to a writ of *habeas corpus*, upon which certain facts were stated, which he apprehended their Lordships would inquire into. Mr. Justice MAULE.—On whose authority do you apply?—for whom do you appear? The CHIEF JUSTICE.—Who is your client? Mr. PARRY.—Personally I have no client. The CHIEF JUSTICE.—Whom do you appear for? Mr. PARRY.—For Dr. Quale. The CHIEF JUSTICE.—Dr. Quale is only one of the public, and has no more right to appear than any one else of the public. *Now we have seen the lady we are perfectly satisfied that she is not capable of giving instruc-*

tions to any one to appear on her behalf. Upon what ground, then, is Dr. Quale entitled to make any further appearance? Mr. Justice MAULE.—Assuming that Dr. Quale had authority to instruct you, this lady states that she has no wish to change her present residence. Mr. PARRY.—Yes, my Lord, she did. Mr. Justice MAULE.—I am very glad that all were present, because I affirm, that to any one capable of understanding anything she stated that she had no wish whatever that the Court should do anything for her, that she wondered why she had been brought there. Mr. PARRY.—The first answer she made was not so, my Lord. Mr. Justice CRESSWELL.—But I must remind you that she made that answer four or five times over. It was manifest she had no mind at all. Mr. Justice MAULE.—She wondered why we should trouble ourselves about her, as our time was valuable. Mr. PARRY.—Does your Lordship state that as an instance of insanity? Mr. Justice MAULE.—You state two grounds for your application; the first is that she is of sound mind. Supposing that she is, her language was quite clear that she does not wish any interference, and you are a perfect stranger to the transaction. Mr. PARRY.—I apprehend that your Lordships are bound to inquire why she was taken into custody. The CHIEF JUSTICE.—I don't apprehend any such thing. If the party is sane, there is no ground to interfere; if insane, you have no authority to apply. Mr. PARRY.—Suppose a party sent to gaol by an invalid commitment for felony, and brought up on *habeas corpus*, would you judge of the felony and remit him back? Mr. Justice CRESSWELL.—If the party came here and did not desire to change his gaol, the Court would not trouble itself. Mr. PARRY.—If you decide peremptorily that I am not to be heard on this writ, and send the lady back to a licensed lunatic asylum, you will be doing that which you have no legal power to do. I earnestly trust that your Lordships will hear me on the point that this lady is not in legal custody. The CHIEF JUSTICE.—We will hear you. Mr. PARRY then contended that Dr. Millingen, as keeper of this lunatic asylum, had only authority to keep the lady in custody on certain forms being gone

through, certifying that she was insane, and if he could satisfy their Lordships that there was a doubt as to that on the 9th of August last, they would watch the proceedings with a scrupulous eye. Mr. Serjeant TALFOURD wished to know for whom Mr. Parry appeared. Mr. Justice CRESSWELL.—The last I heard was, that he appeared for Dr. Quale.—Mr. PARRY.—I appear for Dr. Quale. Mr. Justice MAULE.—I wanted to know that. I have not been listening for the last ten minutes; but I understood the last that you appeared on the part of the public—that you did not appear for anybody. Mr. PARRY.—I never said that I appeared for the public: if so, it was an inadvertence. The CHIEF JUSTICE.—Suppose the Court are of opinion that she is properly taken care of? Mr. PARRY.—The ground on which I venture to appear is, that on the 9th of August last she was of sound mind. The CHIEF JUSTICE.—I infer the direct contrary from the facts, that a woman could be living in a house with Dr. Quale, in which only two rooms were inhabited; from her being found in a state in which it is impossible that any decent man, having a regard for her welfare, would not have had females to attend her; and from the affidavits which have been made in the Queen's Bench. Mr. PARRY.—They were not read in court. The CHIEF JUSTICE.—They have been filed, and I understood you to say that those affidavits came upon you by surprise in the Queen's Bench, as a reason for your present application. What can we infer from the allegations sworn to?

Mr. PARRY.—It is not an unusual circumstance for persons to be charged with being insane who are perfectly sane. The CHIEF JUSTICE.—*And not unusual for such applications to be made for selfish purposes when they are very much the reverse.* It is for the court to see to which class this lady belongs. Look at the circumstances of her custody by Quale—under the charge of a man only, and afterwards taken off for secrecy to a common brothel. Mr. PARRY.—That was at the recommendation of a party, and only for the night in the course of flight.

The CHIEF JUSTICE.—*This seems much more like an attempt to injure the lady than to protect her.* She states that she formerly had £300 a year,

which was reduced to £100 a year to obtain money for Dr. Quale. It is better to preserve to her the £100 a year which she has. We therefore think it better for her to make no order.

Mr. PARRY.—In allowing her to return to custody you are doing that which, by the law of England, you have no authority to do. The CHIEF JUSTICE.—That is—nothing. Mr. Justice MAULE.—The report must be, that Mr. Parry took nothing by his motion. Mr. PARRY.—All you can do is to discharge or remit this lady back to her former custody. The CHIEF JUSTICE.—We shall do nothing at all. Mr. PARRY.—Not upon a *habeas*? I apprehend you are bound to do one thing or the other. Mr. Justice MAULE.—You are mistaken. You will find a case in *Burrow's Reports*. The justice of the case will be best served by that course. If it is legal, we are disposed to aim and strive and endeavour to do—nothing. The CHIEF JUSTICE.—We make no order. Mr. PARRY.—Will your Lordships allow the officer of the court to record that? The CHIEF JUSTICE.—The same thing will appear if he records nothing. Are we to turn this lady, who does not know where she was last night, into the street? Mr. Justice MAULE.—Will you warrant her safe from Dr. Quale? Mr. PARRY.—I will. The CHIEF JUSTICE.—What is to become of her? You ask us to give Dr. Quale the power to take her. Mr. PARRY.—That is not my application. The CHIEF JUSTICE.—But that is the effect of it.

After some further observations, the learned counsel for Dr. Quale said he should not contend further against the strong opinion of the court.

The court made no order.

With the unseemly contest in a legal point of view, we have nothing to do, but we should be sorry to take the interpretation of the law of England in reference to such a case from the advocate employed by Dr. Quale. It was rather a question of common sense and justice than of law; and our readers will, we are sure, agree with us that the protection of the persons and property of lunatics would be an idle dream, if they were

to be discharged from custody upon such frivolous pretences as those brought forward in this instance. The judges appear to us to have manifested extraordinary patience on the occasion, to listen to a barrister contending for the discharge of a person as sane, who had been pronounced insane by three competent medical men and two commissioners of lunacy; and concerning whose insanity their Lordships themselves, from personal examination, entertained no doubt!

Dr. Quale's great fact was, that the unfortunate lady owed him £2,500 for medical attendance! If this statement, made, according to the affidavits, by Dr. Quale to two clergymen, be true, it appears to us to show either that the Doctor, or his patient, was decidedly mad in allowing such an enormous debt to accrue! No sane medical man would be likely to have such a debt on his books; it would, at any rate, be *prima facie* evidence of lunacy against him, and if he seriously expected to be paid the amount, the evidence would be still stronger! This case may hereafter find a place among the "Curiosities of Medical Experience;" for we never before heard of a medical man claiming a patient as *personal* property, and keeping the said patient in close custody in an unfurnished lodging at fourteen shillings a week, without attendance, &c. as a guarantee for the payment of the debt! Society has to thank the judges of the Common Pleas for more than may at first sight appear: for notwithstanding Mr. Parry's ingenious arguments, they have by their decision laid down the law that medical men cannot lock up patients *ad libitum*, or detain them in custody in order that they may derive a certain and comfortable subsistence from any little property of which the said patients may be possessed. This may appear

a hardship to the Dr. Quales, if there be more than one in this country; but we have not the least doubt that the decision will be perfectly satisfactory to those patients who have been rash enough to incur debts for medical advice and attendance! The applicant in this case may derive from the result a hint regarding his future proceedings: the matter is at an end, and he is truly entitled to say of himself, *Nunc sum qualis eram!*

Reviews.

Commentary on the Hindu System of Medicine. By T. A. WISE, M.D., &c. &c. Bengal Medical Service, Calcutta: Thacker and Co., and Ostell and Co. London: Smith, Elder, and Co. 1845.

It appears that, among the sacred records of the Hindus, there is a system of medicine prepared at a very early period, and for which, in fact, the Hindus claim an antiquity far beyond the period to which the history of the heroic age is supposed to exist.

The "Shástras" in which this system has been handed down have latterly been almost entirely neglected, owing, as Dr. Wise states, to the fact that when English scholars have directed their attention to the Sanskrit language, they have seldom extended their examination to the medical Shástras, with which even the Bráhmans were rarely conversant. Under such circumstances, Sir William Jones asserted, "that there is no evidence that in any language in Asia there exists one original treatise on medicine considered as a science." "Even medicine and surgery," says Mill, "to the cultivation of which so powerful and obvious an interest invites, have scarcely, beyond the degree of most uncultivated tribes, attracted the rude understanding of the Hindus." The Commentary before us, the leading particulars of which are extracted from the most ancient records of the Hindu medicine, is justly regarded by the compiler as a sufficient refutation of such opinions. And we certainly fully agree with him

that these works contain much that is interesting and instructive. The medical doctrines contained in this volume undoubtedly form a most extensive and elaborate system, full of strange and fantastic notions, blended with strong evidences of careful inquiry, and of no ordinary exercise of shrewd discrimination. We find here a singular intermingling of ridiculous superstition with active acumen, a credulity which would disgrace the most ignorant savages, conjoined with an air of scientific mysticism which might have well become the most profound charlatans of the middle ages. From so extensive a system as that which the indefatigable research of Dr. Wise has laid before us, we cannot attempt to do more than cite a few disjointed fragments: the passages which we have marked for quotation are, upon the whole, among the best features which the system presents.

The chapter on the duties of the physician contains many precepts which would do honour to the physicians of any age; the remarks upon empirics (who appear to have always flourished most at periods when the knowledge of the learned has been incomprehensible) are extremely vigorous.

"Such persons flatter the patient's friends, are diligent, take reduced fees, are hesitating and doubtful in performing difficult operations, and pretend that their bad success is caused by the bad attendants, &c.; such persons avoid the society of learned persons as they would a jungle. Still some patients will be saved under the care of such a physician, as a worm in destroying the sacred shastres will sometimes leave in its depredations the rude representations of some of the sacred letters. A bad physician may cure one patient, by which he endeavours to establish his fame, without considering the thousands he has killed; such a person is like a boat in a storm without a pilot, or a blind man in the performance of any work, and is to be looked upon as the angel of death. *If such a fellow had his fancy inflamed, he is like a deadly serpent, and should be avoided.*"

All this might have been written yesterday by one who had gained his experience only from a knowledge of European society in the nineteenth century.

The following rules are worthy to have a place in the mind of every prac-

titioner of our own day, and to be perpetuated to the end of time:—

"When a physician has cured a disease, he is entitled to the usual gifts for the performance of a good action. These will vary with the rank and condition of the patient. Money will be the recompense bestowed by the rich; friendship, reputation, increase of virtue, prayers, and gratitude, will be that of the poor. When a Guru, a Brahman, or a Dandi, a relative, a humble and good friend, or one without relations, consults a physician, he must not accept of any pecuniary recompense; his reward in such cases will be an increase of knowledge, and the gratification of his desires in having an opportunity of performing a good action. His cures will ensure the admiration and the esteem of all men; he will be honoured and respected as a master, and, after death, he will go to heaven. Should the patient prove ungrateful after being cured, his holiness and good fortune will pass to the physician."

The force of the above noble sentiments is, however, somewhat marred by the concluding sentence of the precept, which enjoins that the physician must avoid administering remedies to hunters or great sinners, as such people do not deserve his assistance!

In the account of Generation there occur two statements which are strongly confirmatory of modern observations; viz. that the female is susceptible of impregnation only during the period of menstruation; and that one of the principal signs of pregnancy is that the skin around the nipples becomes of a dark colour.

A brief quotation on the subject of diet will convey an idea of the leading principles upon which the more enlightened of the Hindu physicians acted in the treatment of disease:—

"The Hindu medical writers usually commence the cure of a disease by arranging the diet that is to be followed by the sick person. So much do the Hindu physicians rely upon diet, that they declare that most diseases may be cured by following carefully dietetic rules; and if a patient does not attend to his diet, a hundred good medicines will not remove the disease. The generality of diseases being supposed to be produced by derangement of the humours, if one or more are morbidly increased in quantity, their indications of cure are commenced by promoting the just balance of the elements and humours, by a judicious choice of

aliments, and by such means as assist the vital principle on the completion of the assimilation. On this account they have not only been careful in describing the regimen, but also the food and drink for the different seasons, and even the vessels in which they should be kept" (p. 98).

Emetics, diaphoretics, diuretics, enemata, sialagogues, alteratives, oleaginous applications, and errhines, or stimulants, hold a prominent position among the modes of treatment employed by the Hindus. Operative surgery appears not to have arrived at a very high pitch of perfection, but venesection, cupping, leeching, and paracentesis abdominis, and the division of fistula in ano, seem to have been performed with judgment and skill. Four modes of arresting hæmorrhage are mentioned,—by the use of astringents, by the use of ice, by caustics, and by the actual cautery, should the other means not prove sufficient. The concentrated potassa is recommended for opening abscesses and for producing superficial ulcers, &c. The operations for the restoration of the ears and nose of course hold a prominent position in this system: the following description of the original mode of performing the Taliacotian operation is interesting:—

"When the nose is cut off or destroyed by disease.—The former is a frequent punishment in the native courts. A fresh leaf is first cut of exactly the same size as the nose; it is then to be placed upon the cheek, and the necessary quantity of skin and cellular membrane is to be dissected. The nose is then to be scarified, and after dissecting up the flap, it is to be placed upon the raw part of the nose, to which it will adhere. Sutures and bandages are applied to keep the parts together. After the bandage has been applied, a couple of wooden canulæ are to be introduced into the nostril to allow breathing, and to support the new nose. A piece of linen cloth, previously soaked in oil, is to be applied over the bandage. An aperient is then to be given to the patient, and his general health is to be attended to. Should any other deficiency of the nose be present, it may be supplied in the usual manner. If the nose should be deformed, it may be reduced in size by the knife" (p. 189).

The operation for stone is performed in the following manner:—

"The person should take glue internally for several days, with aperients. If very robust, he should be reduced in strength.

When the operation is to be performed, collect the necessary instruments, offer up prayers, and speak kindly and encouragingly to the patient. He is to sit on a table, supported by a person behind, while his legs and arms are raised, and tied by proper bandages. The abdomen is to be well rubbed to make the stone descend. Two fingers of the left hand, well oiled, are to be introduced into the rectum, and the stone felt and brought down. Should the patient faint at this stage of the operation, it should not be proceeded in, as he will in this case die. An incision is then to be made on the left side of the perineum, a barley-scorn in breadth from the raphe, and carried down to the stone. The incision is to be larger in proportion to the size of the stone; and, in other cases, it may be on the right side, avoiding always the raphe. If there be more than one stone be careful to remove them all," &c. (p. 369).

As we have before hinted, our selection of extracts displays only some of the more favourable characteristics of the Hindu system of medicine; a perusal of the entire work must produce a conviction that the doctrines which it contains emanated from men of observant and cultivated minds, whose reasonings were, however, greatly marred by strong superstitious prepossessions and by a very oriental imagination. Still, the above extracts are, we think, amply sufficient to disprove the statement that the literature of the Hindus is wholly destitute of any scientific work on medicine; and we beg to offer our best thanks to the learned compiler of this work for the great zeal and ability which he has displayed in rescuing these ancient records from oblivion. The work is one which well deserves a place in every medical, archæological, and historical library.

Lectures and Observations on Clinical Surgery. By ANDREW ELLIS, Fellow of the Royal College of Surgeons in Ireland, &c., and Surgeon to Jervis Street Hospital. 8vo. pp. 275. Dublin: Fannin and Co. London: Longman and Co.; and Renshaw. Edinburgh: MacLachlan and Co. 1846.

It is an encouraging fact for those practitioners who are desirous to enter upon the arena of medical authorship, that it is almost impossible for any well educated man, who really delights

in the study of pathology for its own sake, to fulfil, with due attention, the duties of a long and active medical career, without having ample opportunities of storing up a large mass of useful information which, if committed to print, can scarcely fail to prove both useful and acceptable to many of his contemporaries.

This remark will certainly be found to apply to the work before us, which we have perused from beginning to end with much attention and interest. Its pages contain little that is absolutely original, but its details bear the stamp of actual observation, and are arranged with that plain and straightforward clearness which satisfies us that the author is a sensible and practical man.

The principal surgical subjects contained in these lectures are, the wounds of arteries, injuries to the head, peritonitis, wounds of the abdomen, delirium tremens, catalepsy, and hydrophobia.

The following extracts afford interesting examples of the practical details of this work.

In his comments on suicidal wounds of the throat, the author makes some sensible observations on a fact which is corroborated by our own experience, viz. "that the amount of structural lesion does not always fairly indicate the consequences which may result from a wound inflicted by a person of suicidal intentions." As an instance of the truth of this statement, the author mentions the case of a young lad who, in a paroxysm of disappointment, cut his throat. The wound was trifling in itself, but the pupils of the hospital, having learned the history of the case, not apprehending any danger, annoyed the poor fellow, to an unmerciful extent, by jokes and ribaldry too severe for his acute feelings; the consequence was, that he died in a state of mental agony in a few days after his admission.

The author makes some useful remarks on the subject of "temporal aneurisms;" but we think that he rather overrates the dangers attendant upon the operation of opening the temporal artery, which we consider to be very rarely followed by aneurism in cases where the vessel is completely divided subsequently to the removal of

the requisite quantity of blood, and where the other necessary precautions are adopted. He observes—

"For my own part, so fully impressed am I of the untoward consequences which occasionally arise from the operation, that I have not, for some years past, taken blood from the temporal artery, except in cases of great emergency, such as an apoplectic seizure or gonorrhoeal ophthalmia. The bad effects which sometimes result from a wound of the temporal artery may be either immediate or remote. By the former I mean an obstinate hæmorrhage, which is restrained with difficulty; and under the latter, I would include secondary hæmorrhage, traumatic aneurism, and erysipelas."

Mr. Ellis regards the treatment of aneurism of the temporal artery by compression, and by ligature on the cardiac side of the tumor, as ill calculated to remove the disease. He also objects to the plan which has been recommended of cutting down at once into the sac, turning out the coagulum, and tying the artery both above and below the aneurismal opening, as he considers that the employment of the ligatures is worse than useless, as they act as foreign bodies. The plan which he has found successful in all cases of temporal aneurism, no matter what may be the state of the parts at the time, is to open the tumor freely, so as to completely divide the artery, sponge out the blood, and dress the wound from the bottom with graduated compresses of lint, previously dipped in spirits of turpentine. These should be kept on by a roller, applied with a moderate degree of tightness, and not removed sooner than the fourth day after the operation, when the wound will usually be found suppurating kindly.

This operation may be highly effectual, but is certainly very severe; and we must confess that, before employing it, we should be inclined to test the power of several of the milder plans of treatment.

The following is a practical observation of considerable moment.

"Retention of urine and peritonitis have sometimes certain symptoms in common which have often led to fatal mistakes in practice. The symptoms to which I allude are pain and swelling in the hypogastric region, attended with a frequent desire to make water, only a small quantity of which comes away, whilst the urgent desire to pass more

continues. I had a personal knowledge of three cases of peritonitis, where the medical attendants were altogether led astray by the urinary symptoms; and it was only by the introduction of a catheter that they could be persuaded that the patients were suffering from peritoneal inflammation, and the urinary irritation was only one of the many symptoms which characterised the disease under treatment. The discovery was made too late in one of the cases, and the patient died. The gentleman in attendance being anxious to satisfy himself as to the cause of death, obtained permission to make a *post-mortem* examination. I was sent for, and found all the morbid appearances I have described as being the usual effects of acute peritonitis. The gentleman appeared to feel very much, and candidly acknowledged that he had made 'a fatal mistake, by which he had lost a sincere friend, and his own peace of mind.' This case occurred some years ago, in St. Mary's Abbey; the medical gentleman who had the care of it has been dead for some time. In the two other cases, the patients recovered. In all cases where the slightest doubt exists as to whether the urinary symptoms are of primary or secondary origin, the real state of the bladder should be ascertained by the introduction of a catheter" (pp. 166).

The only salient fault which we have discovered in this work is the unguarded manner in which the author lays down the rule, that acute peritonitis must be invariably treated by general and local blood-letting, the continued use of calomel, until the system is brought under the influence of the mineral; and the free use of strong purgatives, and this without attempting to make the slightest distinction of cases. We have no hesitation in stating, that the administration of drastic purgatives, in any stage of any form of acute peritonitis, is a most indefensible and dangerous practice; and we are confident that, in a large proportion of the cases of peritonitis which occur among the cachectic and intemperate inhabitants of large cities, the use of large bleedings and mercurial treatment is absolutely inadmissible.

The following case conveys an important caution, which has also been strongly insisted upon in the lectures of Professor Colles.

"A man, of the name of Salmon, a butcher by trade, was stabbed by his wife in the abdomen with a narrow knife, with which he had been killing a calf. He was conveyed to the hospital immediately after the infliction of the wound, and Mr. O'Reilly

and I saw him soon after admission. We found him suffering from great anxiety of mind and apprehension of danger, with about nine inches of small intestine hanging from the wound, which was not more than three-fourths of an inch in length. We at once set about returning the protruded bowel, and, after much trouble, and forty minutes' perseverance, we succeeded in putting it out of sight. The lips of the external wound were then brought together, and retained in this position by adhesive plaster, compress, and bandage. This man died of peritoneal inflammation forty-eight hours after the accident; and, on examining the body, I found a great portion of the intestine which had been protruded placed between the abdominal muscles and the peritoneum. Here a question arises as to whether the intestine might not have been, in the first instance, introduced into the cavity of the peritoneum, and subsequently forced out through the wound in this membrane; and the wound in the integuments being closed, might it not insinuate itself into the situation in which it was found. In support of this idea of the case I must state, that there was no appearance whatever of strangulation exhibited by the incarcerated intestine: on the other hand, I do not think it probable that the action of the muscles of respiration would be sufficient to force the peritoneum from its attachment to the abdominal muscles. I am, therefore, inclined to the opinion, that the protruded parts were never completely reduced, and that the detaching of the peritoneum, and consequent formation of the unnatural recess which contained the intestine, were the results of our efforts to effect their reduction" (p. 179).

The lecture on hydrophobia does not, of course, throw much light upon the treatment of that fearful malady, but it contains many interesting facts relative to the history of the disease. We shall quote the author's remarks with reference to the question of whether "a dog in perfect health, in a state of tranquillity, and when it does not attempt to bite, can produce hydrophobia in the human subject?" The author believes that it can; but we do not consider that the following details of cases which he adduces in support of his opinion in the slightest degree substantiate the axiom which he is desirous to establish, and we cannot refrain from citing these cases as evidence of the insufficient grounds upon which men of sense and experience occasionally attempt to base important conclusions.

"The late surgeon T. Roney mentioned

to me the case of a young gentleman, who had a small ulcer of the shin, for the cure of which he was recommended by a non-medical acquaintance to get a dog to lick it. He accordingly got his own favourite dog to perform the operation; the consequence was, that in a few weeks afterwards the credulous invalid died of hydrophobia.

"In a lecture on hydrophobia, delivered in London by Mr. Lawrence, and subsequently published in the *Lancet* in 1829, the following passage is to be found:—

'In fact, the saliva of the rabid animal must be brought into contact with a recent wound or ulcer; that is, with a breach of surface on the body. It is not necessary that this should be done through the medium of the bite. I need scarcely observe to you, that several years ago a case occurred, which attracted public attention very much; it was that of a lady of rank, Mrs. Duff, to whom the disease was communicated in rather an unusual way. She had a French poodle, of which she was very fond, and which she was in the habit of allowing to lick her face. She had a small pimple on her chin, from which she rubbed off the top; and, allowing the dog to indulge in its usual caresses, it licked the pimple, of which the surface was exposed, and hence the disease of hydrophobia, of which she died.'

"A few years ago, a case, or rather two cases, similar to the one I have just quoted, occurred in the County Cork. A Mrs. D. had a favourite lap-dog, which she occasionally allowed to lick her face. Her daughter, Miss D., was in the habit of granting it a similar privilege: the result was, that both of these ladies died of hydrophobia" (pp. 273-4.

The whole of the evidence which Mr. Ellis has adduced in support of his doctrine—that a healthy dog is capable of communicating hydrophobia to the human subject—is compressed in the above quotation, in which it will be at once perceived, that not one syllable is said with regard to the state of health of either of the three animals by which the disease was propagated. For any thing that is stated in the above account, each of these dogs may have died rabid within a very few days of the period which they inflicted the injury; it is possible that they did not, but still we must repeat, what is the value of such defective evidence as this? It is a fault greatly to be regretted, but one which, in reality, renders valueless a very considerable proportion of our medical literature, that there have always been a large number of writers who have not hesi-

tated to draw positive deductions from imperfect facts, which appear to be convincing enough to the careless reader, but which utterly destroy the value of the arguments they are intended to support. We have, however, only discovered one example of this error in Mr. Ellis's work: we wish that we could say as much for the majority of treatises which come under our notice.

We were altogether unaware that the frightful practice of smothering hydrophobic patients between two feather beds, had ever been followed in any nation in modern times; but Mr. Ellis states that, within the last three years, a man was tried in Ireland, and found guilty, "for having assisted in smothering his own brother in the manner alluded to. The jury, however, recommended him to mercy, on the grounds that he thought he was doing not only a legal but a humane act, when committing the revolting crime of fratricide."

The above extracts will give a fair idea of the style and scope of Mr. Ellis's work; its character is highly practical, and its blemishes few. We have read it with much interest, and strongly recommend it to the younger members of the profession!

Proceedings of Societies.

ROYAL SOCIETY.

Feb. 11th, 1847.

Alleged Illegal Award of the Royal Medal in Physiology, 1845.

WE extract from the *Athenæum* the following report of the proceedings which took place at the Special General Meeting of the Royal Society, on the 11th Feb., in reference to the award of the Royal Medal in Physiology for 1845.

Ever since the award of the Royal Medal in 1845, various signs of dissatisfaction have been exhibited by many of the Fellows of the Society; and this had been increased by the discovery of some irregularity in the proceedings of the Physiological Committee, which had recommended the particular paper for the prize—as well as of the Council in the award of the medals. Although various attempts have been made by the discontented members to express at the ordinary meetings of the Society, their sense of the demerits of the paper honoured by the prize, as well as their dissatisfaction at the irregularity which characterized its award, no steps were taken to bring the

subject before the Society till the 7th of January; when Mr. Wharton Jones presented the following requisition:—

"We, the undersigned Fellows of the Royal Society of London for Improving Natural Knowledge, do hereby, in conformity with the statute, c. 12. s. 2, require a special general meeting of the Society to be convened, for the purpose of considering and determining on the legality of the circumstances under which the award of the Royal medal in physiology for 1845 was first recommended by the Physiological Committee, and under which it was actually made by the President and Council.—T. Wharton Jones, Richard Bright, James Copeland, James R. Martin, Robert Lee, W. F. Chambers, John Webster, James Clark, Marshall Hall, Robert E. Grant, George Gulliver."

In accordance with this requisition, the President and Council called a meeting for Thursday, Feb. 11th, at two o'clock. On this occasion, an unusual number of members were present; and the Marquis of Northampton having taken the chair, Mr. Steven objected to the meeting, on the ground that, the Society being a corporation, there could not be two governing bodies. The Council, he said, according to the charter was the governing body, and not the Society. Provision was made in the charter for the rectifying of abuses and the hearing of complaints, by the appointment of visitors; and to the visitors ought applications to be made on the present occasion. In the second place, he objected to the meeting on the ground of the requisition, which asked for an inquiry into the legality of circumstances.—This was nonsense,—and a question the Society could not entertain.

The MARQUIS OF NORTHAMPTON believed that the present meeting was a legal one;—but he certainly had some doubts with regard to the propriety of the expression used by the requisitionists. Still he thought the Society could come to some vote on the subject.

Mr. WARREN maintained that the meeting was perfectly legal, and called in accordance with the by-laws of the Society. With regard to the technical objection that had been raised to the wording of the requisition, he thought that every Fellow of the Society in the room understood what the words meant.

Sir JOHN LUBBOCK stated, that when the present by-laws were revised, the Council had sought the opinions of the highest legal authorities; and they were represented as perfectly compatible with the charter.

After some further discussion, the President called upon Mr. Wharton Jones to move a resolution. Mr. Jones, after reading extracts from the anniversary addresses

of the Duke of Sussex and the Marquis of Northampton, and the regulations given with the Royal Medals, proceeded to detail the circumstances under which the Royal Medal of 1845 was awarded. The following are the principal facts commented on by Mr. Jones; and they will furnish a correct view of what took place on that occasion:—

Dates of the Proceedings of the Committee of Physiology and of the Council relating to the award of the Royal Medal to Mr. Beck in 1845.

"June 19th.—Mr. Beck's paper was read to the Society.

"July 9th.—Mr. Beck's paper was referred by the Committee of Physiology.

"October 27th.—The Committee of Physiology recommended the award of the Medal to Mr. Beck.

"30th.—The Council adopted this recommendation, and resolved that this award be made. [N.B. The resolution to that effect was not confirmed by the next meeting, November 6th,—and was accordingly ordered to be erased from the Minutes.]

"The Committee of Papers ordered Mr. Beck's paper to be printed.

"November 6th.—The Committee of Physiology confirmed the Minutes of their proceedings at their last meeting of the 27th of October.

"The Council, upon representations made to them, agreed to refer the matter back to the Committee of Physiology, for their re-consideration; and not to confirm their resolution of October 30th, with respect to the award.

"20th.—The Committee of Physiology requested Drs. Todd and Sharpey to draw up a report on the claims of Mr. Beck to the Medal; and ordered his paper to be sent in succession to the several members of the Committee of Physiology resident in London.

"27th.—The report of Drs. Sharpey and Todd was read, and adopted; thus again recommending that Mr. Beck should receive the Royal Medal.

"December 1st.—The Council received this report: and, after hearing read letters from Dr. Lee and Mr. Jones, finally determined upon making the award of the Royal Medal in Physiology for 1845, to Mr. Beck."

The two points to which Mr. Jones drew particular attention were—first, the irregular character of the meeting of the 27th of October—and, secondly, the illegality of the final award. The irregularity of the meeting of the Physiological Committee consisted in the Chairman, Mr. Lawrence, having left the meeting, supposing that all business was at an end,—when it was discovered by those who remained that

the recommendation for the award of the Royal Medal must take place on that day. They accordingly constituted themselves a meeting, placed Dr. Todd in the chair, and made the recommendation above alluded to. In this part of his address, Mr. Jones requested the Secretary of the Physiological Committee to read the minutes of the meeting of the Committee—which was consented to. Mr. Lawrence being present, also confirmed the accuracy of Mr. Jones's statement. The second point was the illegality of the final award. In the regulations for the granting of the Royal Medals given by Her Majesty, it is expressly stated that the medals must be given for papers that had been inserted in the Transactions. Now Mr. Beck's paper had not only not been inserted in the Transactions, but was not printed for eight or nine months after he had received the medal. This circumstance accounted for the period that had been allowed to elapse before bringing the subject under the notice of the Society. Mr. Jones then moved the following resolution:—

"That it is the opinion of this special general meeting of the Royal Society of London for Improving Natural Knowledge, that the award of the Royal Medal in Physiology for 1845 was made under circumstances characterised by great irregularity, and in violation of Her Majesty Queen Victoria's regulations;—viz., that the Royal Medals be given for such papers only as have been presented to the Royal Society, and inserted in their Transactions; and that, therefore, the said award ought to be considered as null and void."

Dr. COPLAND seconded the resolution.

The MARQUIS OF NORTHAMPTON—who had, at the request of Mr. Jones, read extracts from the Minutes of Council relating to this matter—said that he would now restate what he had before said at one of the ordinary meetings of the Society—that he believed the Council had, in the award of the Royal Medal for 1845, committed an error. In the previous grants of medals from the throne, the terms "for papers inserted in the Transactions" are used without the past tense, and the alteration of the terms had not been observed. Many previous medals had been awarded to persons before their papers were published in the Transactions. Whatever was the amount of punishment which the Society would inflict for this error, it must fall on himself and the two secretaries, Dr. Roget and Mr. Christie; for of the other members of the Council of 1845, there were none in office in 1847.

Some observations that fell from Mr. Jones led to a few remarks on the merits of Mr. Beck's paper; in which Prof. Owen, Dr. Sharpey, and Dr. Todd, took a part. But the discussion was stopped by the

President, as foreign to the object of the meeting.

Prof. BELL and Mr. WARREN having made some remarks, Mr. J. E. GRAY moved the following amendment, which was seconded by the Rev. R. Sheepshanks.

"That whereas the President of the Society has already expressed from the chair an opinion on the irregularity which attended the award of the royal medal in 1845,—and whereas the Council issued new regulations with regard to the royal medals as soon as they discovered that those enacted in 1838 were inconsistent with the terms of the royal grant:—it, therefore, does not seem expedient to the present meeting that any further proceedings should be taken in the matter."

Sir JOHN LUBBOCK thought that the passing of Mr. Jones's resolution would be a vote of censure on the Council; although it appeared on the face of the matter that there was not the slightest knowledge on their part that they were in any manner transgressing the rules under which they acted.

Mr. WARREN thought that, as the act was illegal, the Society ought not to hesitate to pronounce it so, and to retrace as far as possible its steps.

Dr. BRIGHT, as one of the requisitionists, wished to say he was glad this inquiry had taken place. It would remove from the Council the stigma which had rested upon them from the misrepresentations of the facts which they had this day explained; and also would act as a means of preventing any negligence with regard to the award of medals in future.

The meeting was also addressed by Mr. CHRISTIE, the secretary, and by Mr. BABAGE.

The MARQUIS OF NORTHAMPTON said, in conclusion, that he had been much misrepresented in this matter; but as the attacks were anonymous, he could not reply to them. He had been said to be opposed to inquiry, and to any changes in the Society; and it had been asserted that he was about to resign his presidency. He was always most anxious for the welfare of the Society; and, so far from being opposed to change, he had consented to many changes which he thought were for the honour and good of the Society. He hoped this would be the only feeling which would actuate him in all he did.

The amendment having been put, a large number of hands was help up in its favour:—for the negative, three. Sir ROBERT HARRY INGLIS proposed, and Sir RODERICK IMPEY MURCHISON seconded, a vote of thanks to the noble president: and the meeting separated at half-past five o'clock.

ROYAL MEDICAL & CHIRURGICAL
SOCIETY.

February 9, 1847.

Mr. ARNOTT in the Chair.

PROFESSOR OWEN was admitted an honorary fellow amid much applause; and, at the conclusion of the usual proceedings, returned thanks in a very appropriate speech, declaring, that of all the honours he had received, he should esteem the present one of the greatest.

An Account of a Case of Encephaloid Disease of the Heart. By EDW. L. ORMEROD, M.B. Demonstrator of Morbid Anatomy at St. Bartholomew's Hospital.

THE subject of this communication was a man, aged 48, who had had his right testicle removed, for what was supposed at the time to be simple enlargement of the organ, in August last. Shortly after the operation a tumor appeared in the epigastrium, but the wound healed rapidly and he returned to his work. In the course of a week or two he had to give up work from debility, and came into St. Bartholomew's Hospital, under the care of Dr. Roupell, for the last fortnight of his life.

The chief point of interest concerning the tumor in the abdomen was the fallacy thrown over the diagnosis by the discovery of pus in the urine, a fact explained after death by the existence of suppurative nephritis in the right kidney. On examination of the heart, a systolic murmur, of a musical character, was heard at the apex, and a blowing murmur at the base prolonged equally along the aorta and the pulmonary artery.

On examination after death, a large tumor was found to extend down the front of the spine, but loosely attached to it, traversed by the aorta and ascending cava, the cavity of the latter being almost obliterated by pendulous, flocculent masses connected with its walls. The right common iliac vein was ulcerated, the left obstructed by a laminated coagulum, the circulation being apparently maintained by enlarged lumbar veins. None of the abdominal viscera were implicated.

The right ventricle of the heart contained a mass of encephaloid matter, of a lobulated form, springing from its anterior wall, one lobule extending into the ring of the tricuspid valve, or at least intervening between its tendinous cords, another reaching up nearly to the pulmonary valves, and a few more, smaller ones, lying towards the apex of the heart. The wall of the ventricle was a good deal changed at the point whence the lobule sprung; elsewhere it was healthy. The tumor consisted of nucleated; with

some caudate cells, dispersed through a loose amorphous tissue.

The author limited his observations to two points,—the auscultation of the heart, and the nature of the tumor there. With regard to the auscultation, this case seemed to show that the presence of a growth of this kind, even of such a size, could not certainly be made out during life by any signs proper to the tumor itself; it could only be detected, as any other foreign body might be, by its accidental interference with the functions of the heart. It was casually illustrated, while on this part of the subject, how cancer of the pericardium might also exist without being detected by auscultation.

With regard to the nature of the tumors (which part of the paper was omitted, on account of the length of the following interesting paper) the author endeavoured to place in the order of their different stages of growth the few cases of endocardial cancer hitherto published. Presuming an analogy to exist, according to Rokitsansky, between these tumors and the globular vegetations of Laennec, there seemed to be a regular gradation from the masses which hang on the endocardium, as if deposited there by the blood, to the lobular growth, which, true to the nature of cancer elsewhere, had destroyed the muscular structure of the heart in one part of the preparation exhibited to the Society.

Case of Internal Strangulation of Intestine relieved by Operation. By GOLDING BIRD, A.M. M.D. F.R.S. Assistant-Physician to Guy's Hospital; and JOHN HILTON, F.R.S. Assistant-Surgeon to Guy's Hospital.

Dr. BIRD remarks, that the attention of the Society having been lately occupied with the consideration of the practicability of diagnosing the seat and nature of the obstruction in cases of internal strangulation, with a view to its relief by operation, he ventures to hope that the history of the following case will not be considered devoid of interest.

Dec. 21st, 1846.—Dr. Bird was called to Barking, in Essex, to see Mr. C—, a young gentleman twenty years of age. Eight days previously he was as well as usual, having merely had constipated bowels for a couple of days, when, in the morning, whilst in bed, he became sensible of a slight dragging or sense of giving way about two inches to the right of the umbilicus, towards the spine of the ileum. This sensation was soon replaced by a sense of soreness and tenderness. During the following six days, nothing passed from the bowels except with the aid of a copious enema. Purgatives and a tobacco enema failed in procuring stools. Three days previously sickness commenced; a sense of

uneasiness and distress was produced by firm pressure on the spot where the dragging was first felt; the abdomen was flat and collapsed. On inquiry, it appeared, that when a child he had been the subject of mesenteric disease, and some years afterwards, of an ailment, supposed from the symptoms, to have been peritonitis. The absence of hernia, as well as of any previous hæmorrhage from the intestines, or of exposure to the influence of lead, the improbability of the presence of malignant disease, proved the non-existence of the most ordinary cause of insuperable constipation. Recollecting the dragging sensation and previous existence of peritonitis, Dr. Bird ventured to give an opinion that the mechanical obstruction depended upon a knuckle of intestine becoming strangulated in some manner under a band of false membrane. The character of the vomited matters and the empty state of the cæcum and colon at once referred the seat of obstruction to the small intestines. Trial was made of metallic mercury, after which the pain and vomiting ceased, and no important change occurred until Dec. 25th, when pain and vomiting returned. The propriety of an operation was entertained; and Dec. 28 the writer requested the assistance of Mr. Hilton for this purpose, and they arrived at the patient's house at nine o'clock P.M., being just fifteen days from the commencement of the illness. The abdomen was scarcely more distended than on the 21st, but the muscles were more irritable, assuming a state of spasmodic contraction on the slightest manipulation. No great uneasiness experienced on pressure. Pulse 90; skin soft and cool, and tongue moist. The patient was placed in a room in which a temperature of 88° to 90° was maintained.

Mr. HILTON stated, that having arrived at the same conclusion respecting the nature and seat of obstruction as that described by Dr. Bird, he fairly represented the various arguments and facts for and against an operation to the patient, who expressed himself decidedly desirous of the attempt being made to relieve him. An incision was made from the median line to within an inch of the pubic symphysis, and the abdomen opened. Several convolutions of distended and congested small intestine so completely blocked up the opening, that it was necessary to enlarge the incision for about one inch and a half above the umbilicus. After dividing a band of adhesion between two portions of small intestine, and making a careful search in different parts of the abdomen, Mr. Hilton found on the right side about six or seven inches of ileum in a state of strangulation, having passed through an annular opening formed in part by another portion of the same small intestine, and by some old mem-

branous adhesions to the brim of the pelvis, over the external iliac bloodvessels. By gentle traction on the strangulated intestine at the opposite side of the opening through which it had passed, Mr. Hilton succeeded in liberating it from its incarcerated position. The intestines were replaced with some difficulty, and the abdomen was closed by a continued suture. After the operation, which lasted about an hour, the patient was somewhat collapsed, but there was no marked anxiety of countenance. He afterwards became restless and delirious, and died about nine hours after the operation. On examination of the body, several strong cellular adhesions were found between the convolutions of the intestines. The cæcum and colon were distended with feculent matter. Mr. Hilton regards the direct results of the operation as very satisfactory, and in a surgical aspect, successful. The hiccup and vomiting ceased; the obstruction was relieved, and feculent matter had passed as far as the upper part of the rectum. So long as any doubt remains as the seat of obstruction, the author thinks it the safer plan to adopt the median section of the abdominal parietes. After noticing the disadvantage arising from the patient's friends not consenting to an operation at an earlier period, he observes, that the circumstances of the case fully justified the proceeding which was adopted; and, notwithstanding its fatal termination, he would advise the same plan to be pursued in a similar case, provided the indications be as clearly expressed. Mr. Hilton remarks, in conclusion, that he believes this to be the first recorded instance of any surgeon in this country having succeeded in his attempts to relieve an internal strangulation by an operation.

Mr. FRAGUSON thought this paper of such interest and importance that he should regret to see the meeting separate without passing some opinion regarding it. The subject was interesting alike to the surgeon and physician; for, though the latter usually had charge of such a case, as demanding internal treatment chiefly, the surgeon was often required to determine the seat of obstruction, and to use such means as are in his power to overcome it. The question of an operation in cases of this description demanded most serious consideration, and he believed that it would be satisfactory to the profession that the subject should be noticed in this Society. He had himself long been interested in cases of the sort, for, at an early period in his professional life, he had seen several instances in which operations had been proposed, but older heads (to whom he was always disposed to bow) had objected. Within the last few years he had seen operations twice performed in such cases. In one he had himself laid open the

inguinal canal, in expectation of finding a hernia, but this had been an error in diagnosis; there was no hernia, and the patient eventually died. In the other case, he had been asked by the physician in attendance to operate, but a difference in opinion arose about where and how the operation should be done. There was fulness in the region of the cæcum, which led the physician to think that the operation should take place there, but he himself having a strong opinion as to an incision in the linea alba being the best under the circumstances, had declined doing as the physician desired. An operation was performed, however, by another surgeon; the walls of the abdomen were cut through, and the swollen intestine was punctured, with temporary relief. The patient died some hours after; and, on inspection, it was found that the obstruction was caused by a fibrous band (which confined a portion of the small intestine), so situated, that, had the finger been passed into the peritoneal cavity at the linea alba, it must have been detected, and, in all probability, the operation would have been successful. He (Mr. Fergusson) was of opinion that, under such circumstances as had been detailed in the paper just read, an operation was quite justifiable. All parties agreed as to the danger of wounds in the abdomen; but in such examples as this it was to be remembered that the danger was imminent otherwise, and that, in fact, there was no other chance of life for the patient. The operations which had been so frequently performed within the last few years for removal of enlarged ovaria, had proved that there was not such risk on opening the peritoneal cavity as had been generally supposed, and therefore, where all other means failed, in cases of internal obstruction, he should not, if the features otherwise were favourable, hesitate to advise an operation. It was an important matter to decide as to where the incisions should be made. He thought that, as a general rule, the linea alba should be selected, and that the surgeon here had very judiciously chosen that part. If he (Mr. Fergusson) had an objection at all to what was done, it was to the lowness of the incision at first. It had been found necessary to carry it upwards in the course of the umbilicus, and it was his opinion that the incision should at first always be in the vicinity of the umbilicus. It was almost impossible in such cases to determine from symptoms as to the exact seat of obstruction; and, notwithstanding the care and skill evinced by the excellent physician who had examined this instance, it would appear, from the surgeon's account, that the obstruction had not been detected until the hand had been carried all round within the abdo-

men. These cases were very different from those wherein some modern surgeons opened the intestines above an obstruction from malignant disease. The main object in such instances was to give temporary relief, by opening the distended bowel; but, in cases like that before the Society, the operation was done with the double view of relieving the stricture and bowel at the same time; and as the incision into the peritoneum was a sort of exploratory one, he should certainly recommend the linea alba, near the umbilicus, as being the centre, as it were, from whence all parts of the cavity could be most easily reached.

Mr. BRANNEY COOPER spoke at considerable length on the subject. He agreed with Mr. Fergusson, that the case related was an important contribution to the Society and the profession, but the difficulties surrounding the diagnosis of these cases, and the operation for their relief, were not removed by the narrative before them. These questions were still to be decided—When are we to operate? Where are we to make our incision? What are the causes of the obstruction? Let it be remembered, that in some cases where ulceration had supervened on other disease, constipation was the remedy employed by nature to remove the evil. Interference in such cases would do harm. He contended that there was no analogy between cases similar to the one detailed and those in which ovarian cysts had been removed, for the peritoneum in the two cases was altogether in a different condition. He thought that the danger of opening the peritoneum had been underrated, and referred to our success in those cases of hernia in which the strangulation had been relieved without opening the sac, as evidence of the truth of his remark. He remarked on the pulling about of the intestines in the examination as a formidable proceeding, and concluded by asking Mr. Hilton whether he would have dared to operate earlier than he did, if called upon to do so.

Mr. QUAIN could not regard any operation in which the cavity of the abdomen was laid open as otherwise than a very serious one; and he referred to the comparative results of those operations for strangulated hernia in which the hernial sac had not been opened, and those in which that membrane had been divided, as proving the peril of any opening into the abdomen. Still, he entertained the opinion that an operation would be justifiable if the internal strangulation were clearly ascertained. In this condition, however, lay all the difficulty: the whole question turned on the accuracy of the diagnosis—on the accuracy with which it could be determined beforehand that the

obstruction depended on the presence of a mechanical cause susceptible of being removed by the operation. Cases had lately been before the Society, and one was now referred to by Mr. Fergusson, in which a single band of natural formation, not a product of disease, had been found to cause strangulation of the bowel. He had no doubt that in such cases the operation was called for, and ought to be performed, if their nature admitted of being satisfactorily determined from the symptoms. But it should be remembered that other cases, accompanied with similar symptoms, were not so simple in their nature. In the case detailed this evening there had been, not a single band in the abdomen, but many; and they were the result of previous inflammation. Several portions of the intestine were found connected together by membranous bands; and one of these on the left side was divided in the operation. The case appeared to be one of chronic peritonitis. To illustrate a different form of disease, attended with symptoms in a great measure of the same kind, he mentioned a case that came under his own observation. He had been called, a few years ago, by a physician in the country, to see a man who was suffering with all the symptoms of strangulated hernia. The attack of illness had begun with obstruction of the bowels, and, as he was informed, nothing but obstruction existed in the first instance. The lower bowels were opened by enemata, but the disease advanced to a fatal termination. On examination of the body, there was found a part of the small intestine, near its termination in the colon (about an inch or less in breadth, and including the whole circumference), lying against the vertebral column, dark grey in colour on the outside, and contracted. The mucous lining of the part was likewise of a dark grey colour, and was corrugated. Above this point, the intestines were largely distended; the colon was empty. He thought it probable that the diseased part of the intestine would have mortified if the life of the patient had continued some time longer. There was, in this case, no constricting band of any kind, or pressure; nothing, in short, to account for the condition of the gut. A friend, to whom he mentioned the case, told him that he once opened the body of a person who died in similar circumstances, and the post-mortem appearances were the same. Returning to the diagnosis, which he regarded as the main point, the fixed local pain, and the absence of the symptoms of inflammation in the abdomen, are probably most to be relied on. In the important case read to-night, the pain was constant at one point, and it was attended by a dragging sensation. The

movement of the abdominal muscles, which was described, appeared to be very singular. The tenderness on pressure which accompanies inflammation of the peritoneum was said to be wanting; inflammation, however, existed at the time of the operation, for bloody serum escaped when the abdomen was opened. On the whole, considering the complications which existed in this case, he feared that it would not tend materially to diminish the difficulty in our way in determining the cases fitted for the operation.

Mr. HILTON said he felt much pleased at finding, through the observations which had been made by the gentlemen who had spoken, that they agreed, on the whole, in the propriety of doing what had been done in this case, and that their remarks might be made available in recommending such a proceeding in another case of the same kind. In reply to Mr. Fergusson's only objection, he could not see what would have been the advantage of making the incision in this case at the umbilicus, and of using it as the centre of an exploration. In the first place, it would have been against the conclusion at which we had arrived before the operation was commenced, in reference to where we might expect to find the obstruction at the lower part of the right side; and, further, the necessity for enlarging for the section beyond the umbilicus would not have occurred had not the small intestines been so much distended as to block up the opening already made. In answer to Mr. Cooper's question—Would we have dared to proceed with this operation at the time Dr. Bird first suggested it as the only favourable chance for the patient?—he said, undoubtedly, had the indications been as obvious and as clearly expressed as they were at the period of his seeing the patient, and he would have pursued the same plan. The manner in which Mr. Cooper referred to the details of the manipulations in examining the abdomen, as being first to the right side, and then to the left, might, at the first glance, have a tendency to disparage that proceeding; but it must be borne in mind that it was a very important examination, completed by merely passing the hand into the abdomen, and without disturbing the intestine, to ascertain that this was not a case of obstruction depending upon any abnormal adhesions to the abdominal parietes. That point ascertained, it became necessary to look for the cause more deeply seated, and it was only necessary to displace the intestines, when he determined to make a complete exploration on the right side. He might here remark, that he found, as he had anticipated, that the bringing into view the completely empty

intestine became the best guide towards discovering the seat of the obstruction; and he thought that this might henceforth be used as a valuable auxiliary in detecting the locality of the stricture in any other similar case: indeed, it was almost the first thing to be looked for: at least, such was the importance which he attached to it. Mr. Quain had said, that this case did not add much to our existing knowledge regarding these obscure cases, and that, as there were so many adhesions, it might have been difficult to tell which of them was the true cause of the symptoms. He (Mr. Hilton) thought that the occurrences, as mentioned in the detail of the operation, and the fact that, notwithstanding such an imaginary difficulty, the real seat of the obstruction was actually and with facility noticed, might be considered the best reply. Having reflected with much anxiety on the importance of this case, he was still of opinion that they were right in adopting the plan that was carried out, and that it was the only remaining chance which could be offered to the patient. It had been said, that similar cases of constipation had occurred, with symptoms as urgent and of as long duration as the one before the Society, and had ultimately recovered, without any such operation. Now he did not believe that such cases had really corresponded to this one, for he felt quite certain that by no possibility could the portion of intestine have been liberated from its incarceration except by the means employed. He had endeavoured to ask himself whether anything more could have been done for this patient; and he must say, that he thought they were wrong in giving such exact directions for the surgeon who had the charge of the case after the operation—viz., to abstain from the administration of any nutrition for many hours. They were guided in this respect by the recommendation of those gentlemen who had made abdominal sections for other diseases; but he had little doubt, if the surgeon had acted on his own responsibility at the time, he would have done so with advantage, and would have given the patient stimulants at or about five o'clock in the morning, when the symptoms were obviously those of exhaustion; for the patient certainly did not die of the immediate collapse of the operation; from this he had obviously rallied; and Mr. Hilton was compelled to conclude that he died from exhaustion. He thought that the case altogether pointed distinctly to our capability of recognising such a case from one of intus-susception, which, as far as he knew, after its existence for a few days, was always accompanied by more or less of hæmorrhage from the bowels; and it at the same time strengthened the conclusion, on which they acted, that the operation, as

completed in this patient for the first time in this country, was an operation not only justifiable, but advisable in similar cases of internal strangulation of intestine.

HUNTERIAN ORATION.

THE Hunterian Oration of the Royal College of Surgeons was delivered on the 15th inst. by T. H. Green, Esq., F.R.S. &c., in the theatre of that institution.

The orator commenced his discourse by displaying the professional character of John Hunter, as a model for imitation by the rising members of the profession; and, in portraying the mental qualifications which enabled that illustrious surgeon to place the sciences of physiology, comparative anatomy, and surgery, upon the great basis of a knowledge of the vital functions, he took occasion to analyse, with a masterly display of metaphysical argument, the true nature of that combination of mental qualifications which is generally known by the name of *talent*. In doing this, the orator shewed that it is less in the possession of inherent genius than in the cultivation and just combination and co-operation of the various faculties of the human intellect, that the perfection of this great mental power consists. The lecturer then proceeded to state his intention of devoting the remainder of his lecture to the subject of the education of medical men, as bearing upon the regulation lately announced in the College Charter—of requiring a high standard of preliminary education from all future candidates for the fellowship. We regret that we cannot state, proposition by proposition, the eloquent and learned arguments by which the orator displayed the value of a knowledge of letters, history, languages, mathematics, logic, and natural history, in the most extended sense of the term, to the medical philosopher, especially when that knowledge is combined with due cultivation of the moral feelings. The power of illustration, and the classic force of description with which he brought each argument to a brilliant climax, and, finally, combined the whole into one great principle of the absolute requirement of exalted mental culture to the scientific and philanthropic surgeon, altogether formed a display of reasoning, learning, and eloquence, which we believe has rarely been equalled, and which could scarcely be excelled.

The oration, which was listened to throughout with the most earnest attention by a very crowded audience, lasted nearly an hour and three-quarters. Among the visitors we recognised several distinguished public characters, and many of the leading members of the College of Physicians.

Correspondence.

HYDROPATHY IN 1811—A FRAGMENT ON
THE COLD WATER CURE IN CASES OF
TYPHUS FEVER.

SIR,—The accompanying paper on the administration of copious draughts of cold water as a remedy in typhus fever was one of several small matters which came into my possession some years ago as the bequest of a physician, formerly in the army medical service. I know nothing of the document further than this, and what may be gathered from the superscription and the signature. I feel certain, however, that my deceased friend would have sanctioned the publication of it had he been now living; and as it appears to have been once made a public document, there can be no impropriety in giving it to the public now, if you think it will interest.—I am, sir,

Your obedient servant,

T. LAYCOCK, M.D.

To the Honourable the Medical Board.

Gentlemen,—Your request that I should communicate to you the mode of treatment which I have so long and so successfully used in cases of typhus, is to me at the same time flattering and fearful. Honoured by your desire to be informed of it, I cannot but have fears lest my present communications may be considered too imperfect, or that the plan might not be pursued with that degree of ardour and perseverance on trial which alone can render it successful.

I have in a former letter mentioned the success that had attended my practice, and I may in a great degree attribute that success to the early attention which was generally paid to it; indeed, I observed that the progress in recovery was always in proportion to the late or early application.
* * *

Here it may be proper to state the opinion that led me to adopt the subsequent treatment, which by being received in the same light, may prove the necessity of the unvaried attention now necessary to be shown towards the patient. I regarded typhus as occasioned by a peculiar and specific kind of poison introduced into the constitution; and as I know that all poisons, of what nature soever, may be rendered completely inert by excessive and extreme dilution, I endeavoured to prove the possibility of reducing this poison to an inactive principle. Accordingly, my patient being now confined to his bed, has administered to him, from four to six, but generally six, ounces of pure water every ten minutes.

The attendant or nurse has strict orders

not to interrupt his sleep, if sleep should happily supervene; but it is requisite also to guard him against mistaking this sleep from dazing or stupor, which only proves too strongly the melancholy condition of the sufferer. This stupor, or dazing, then, is not to be regarded, but the water must be given regularly on until the fever has subsided; and when this happy termination occurs, the patient is only left in a state of debility: sleep takes place naturally, and the appetite returns. During the continuance of fever no fermented fluid of any kind is allowed, but if the appetite should return, a small slice of household bread, with or without a small quantity of butter, is given as often as required: oat gruel, or barley gruel, is also occasionally allowed. At the time the skin is hot, dry, and parched, the cold water is given in large quantities if agreeable; and I conceive there may be cases, such as petechia, &c., or where the blood oozes from the small vessels of the intestines, and is discharged by stool, or in a foetid state, when it may be proper to add to it a small quantity of wine; but these cases will be found to occur most generally where the fluid has not been well supplied. Before I adopted the present simple mode of treatment, I have used the cold affusion, but I now find the skin but seldom in that state to regard it as absolutely necessary; yet I could be easily led to imagine that a case may now and then occur where both conjointly may be serviceable; and, if I may be allowed to hazard an opinion, I should suspect that when the patient is in such circumstances as may warrant the application of cold water to the skin, that the absorbents readily and hastily take up a large quantity of that fluid, and by carrying it into the circulation, the relief so suddenly experienced is brought about much in the same way as by taking it into the stomach; with this difference, that in the one case its supply is regular and uniform, when in the other, although it may be most immediate, yet the repetition of it becomes often necessary, under more advantageous circumstances, to obtain the desired effect. I have frequently been suddenly called to attend my patient, whom I had left going on well, and have found a great accession of fever, accompanied with increased heat, when upon inquiry I generally have been able to refer it to an omission of the attendant in neglecting the supply of water.

This simple fluid I have generally coloured, from the unwillingness I might occasionally find in my patient to drink so frequently such large quantities of water; but when apparently medicated with a few drops of a simple red tincture in a gallon of water, they make use of it freely, and are frequently anxiously looking forward to the expiration

of the ten minutes to be again indulged with the medicine (for such they think it) that relieves them from the burning sensation of fever. Delirium, that truly distressing symptom, is rendered mild, or in most cases kept off entirely: opiates, therefore, are seldom, very seldom, requisite.

I have thus given a general though summary account of my treatment of typhus, which I trust will easily be comprehended, and taken the diluting plan as the basis of the treatment, yet every practitioner must be aware that he must meet occasionally with cases in which it will be necessary to prescribe medicines to alleviate any occurring impediment.

JAMES COPNER.

Barnstaple, Nov. 18, 1811.

TITLES ASSUMED BY MEDICAL PRACTITIONERS.

SIR,—It is somewhat amusing to witness the different attempts which have been made of late years by the several classes of our profession to alter and confound the distinctions between them, each (that is to say, individuals in each) endeavouring to elevate themselves by lessening the pretensions of others; but the most cool assumption which I have yet seen is in the preface to a work just circulated very extensively among us,—the Medical Directory.

It appears from this preface, that "the term general practitioner is far from being universally popular among the profession," and therefore the Editors propose a new classification of titles, and they "begin with those holding the license of the Society of Apothecaries without any other diploma," to whom "the designation *general practitioner* is strictly applicable; and by adopting it, they assume no more than what is properly their due."

Secondly—"the Fellow and the Member of the Royal College of Surgeons will alike, and with equal right, entitle themselves *surgeons*, which we consider expresses inferior attainments to that of general practitioner; as, in fact, the former only indicates a class of men who, with the diploma of the Royal College of Surgeons alone, have often ventured to assume the responsibility of general practice."

Can you, Mr. Editor, explain to your readers how it is that a license to practise as an apothecary,—that is, to practise medicine alone,—conveys greater privileges than a diploma conveying a right to practise surgery alone? Can you inform them how the minor can contain the major?—how the compulsory study of *medicine alone* at the hospital and in lectures can give a man knowledge more general and superior to that of one who is compelled to study both

medicine and surgery, medical and surgical practice, and medical and surgical lectures, which must be done by every fellow and every member of the Royal College of Surgeons?

Even the memorial of the so-called National Institute is obliged to acknowledge that "the examinations instituted by the Apothecaries' Society, and their certificate relating only to the practice of medicine, obviously are inadequate to the requirements" of the general practitioner, though the memorial is liberal enough in insinuations against the probity and honour of the physicians and surgeons who are not general practitioners, or particular sections, as the memorial calls them.

Why cannot the different classes or sections of all kinds practise and write as gentlemen and members of a so-called liberal profession, without these paltry and indecent innuendoes and assumptions, which have already of late years lowered the whole profession in public estimation?—I am, sir,

Your obedient servant,

A MEMBER OF THE COLLEGE
OF SURGEONS.

Feb. 1847.

ETHER IN OPERATIONS FROM SEVERE INJURIES.

SIR,—From a feeling common, I suppose, to most exhibitors for the first time of a novel remedy, who are apt to think that the public interest in the case in which it is used must equal their own, I have thought it right to trouble you with this note respecting the inhalation of ether, leaving it for you to judge whether or not any part of it (except you consider the subject now grown common) is worth a place in your valuable journal.

Yesterday fortnight a man was brought to my surgery in a cart, the bursting of whose gun had carried away part of and otherwise seriously injured the left carpus and metacarpus. Amputation of the forearm by the flap operation was performed. A few seconds before the incisions were made, he was caused to inhale ether from a rough apparatus (which, however, answered perfectly well), formed by perforating a cork of a quinine bottle with two holes at opposite sides: through one was passed a piece of glass tubing, that almost touched the bottom of the bottle; through the other, only a little way beyond the cork, another piece, not so long as the first, nor straight, but bent at the right angles, for a mouth-piece; into the bottle was put some ether, about an inch and a half or two inches deep. With little instruction as to holding the nose, &c., he smoked away "à merveille," and was quietly lapsing into a state of unconsciousness, which a bystander (his mother), mis-

taking for syncope, effectually prevented, by seizing and applying to his nostrils the bottle of Liq. Am. fortiss., but of which she was immediately deprived. The stupor, however, gave place to a querulous kind of delirium, which continued some minutes; his angry talk was of anything and every thing but what was going on around him, of all of which, and of the pain of the operation, he was perfectly unconscious, his first expression of suffering being at the taking up of one of the arteries. With this sort of unconsciousness disappeared his peevishness; and his demeanour, which became very cheerful, and continued so for some hours, resembled much the exhilaration produced in some after the immediate effects of breathing the nitrous oxide gas have passed away. The buoyancy of his spirits was the theme of much remark in his family, for on previous occasions of illness or suffering he had been peculiarly desponding. His complaints of grievous pain, which were both heavy and frequent prior to inhaling,—his acute sensibility to suffering when the first effect of the remedy had gone off,—his apparent ease, as regards pain, during the operation, coupled with his own subsequent declaration of utter ignorance thereof, and the foregoing circumstances,—left no doubt upon the minds of myself and my neighbour, Mr. Parker, of this place (who kindly assisted me), as well as of the bystanders, that this emancipation from suffering was really due to the ether, and not to the shock, to faintness from hæmorrhage, nor to mental fortitude. The only other point of note was the length of time the ether could be smelt on the breath: four hours after the operation it was very evident to me standing at the foot of the bed.

The case, I am happy to say, did well.

Notwithstanding apologies are so much needed, I will not waste more of your valuable time by making them, but at once subscribe myself, sir,

Your obedient servant,
J. C. K.

Wrotham, Kent,
Feb. 1847.

P.S.—One thing I omitted to notice, viz. that, when everything was secured, and the wound dressed, just before laying him in his cart, a dose of laudanum and ammonia was given, to sustain him as far as possible against the effects of a three miles' ride of the hill in the teeth of a snow-storm. The character of the mental symptoms did not appear changed by the opium.

ON THE USE OF ETHER IN SURGICAL OPERATIONS. BY GEORGE L. COOPER, F.R.C.S., SURGEON TO THE BLOOMSBURY DISPENSARY.

F— L—, aged 23, an attendant

at the British Museum, was admitted, February 5th, under my care, as a patient at the Bloomsbury Dispensary, with a fungoid swelling of the tissues adjoining the nail of the big toe of the right foot. Its appearance was irritable, discharge sanguineo-purulent, and general character unhealthy. The toe was much swollen, and pain intense. Considering the case to be one of irritation, occasioned in the first instance by the pressure of a shoe, and, secondly, by the sharp edge of the nail extending into this angry tissue, I recommended a soothing treatment, with constant rest, and determined, in the course of a few days, to submit my patient to the inhalation of sulphuric ether, and to extract the nail from its attachments. Having requested the presence of my colleagues, Dr. Rowland and Mr. W. Lloyd, we met by appointment at the patient's residence this afternoon, and, under the administration of Mr. Ghrimes, dentist, of Baker Street, whose compact and excellent apparatus was used, in the course of six minutes its influence was duly proved, when the operation was performed without delay. He remained in this state during five minutes, at the expiration of which, on awaking, he expressed much astonishment on hearing that the operation and dressing of the wound were completed. He was happy; and told us he had not experienced the least pain. The pulse during the inhalation was at 96, and fell, on restoration to his senses, to 74.

I need only add, there were two gentlemen, strangers to me, in the room during the operation, both of whom fully coincided in our opinions that the desired effects were produced, and the result most satisfactory.

35, Keppel Street, Russell Square,
Feb. 1847.

ON THE NARCOTIC PROPERTIES OF ETHER.
BY ROBERT LEWINS, M.D., FELLOW OF
THE ROYAL COLLEGE OF PHYSICIANS OF
EDINBURGH, &c. &c. &c.

It was not until to-day that the extraordinary letter came under my observation, addressed to the Editor of the MEDICAL GAZETTE, and signed, "James A. Dore," in reference to the notice "that the process for procuring insensibility to pain by the administration of the vapour of ether to the lungs, is patented for England and the colonies."

In a leading article of the MEDICAL GAZETTE of Jan. 8th, it is well remarked, "We doubt whether the process possesses the novelty which entitles it to a patent." That it does not, is certain; and it is the duty of all who wish well to the interests of science and of humanity to protest against the heartless avarice and matchless effrontery

of the American "inventors" and their London agent.

It has been long known to scientific physicians that sulphuric ether is a narcotic when freely inhaled into the lungs in the form of vapour, as distinctly stated by Dr. Christison, the present distinguished Professor of Materia Medica in the University of Edinburgh, in his admirable work on the Pharmacopoeias of Great Britain, published in 1842 (page 67); and in page 68 he says, "It (ether) is occasionally administered in the way of injection: at other times it is used in the way of inhalation."

So much for the novelty of "the administration of the vapour of ether to the lungs." But it appears that, even for the precise purpose for which these claimants have "patented," as they pretend, this NOVEL mode of medication, it has been previously employed by Dr. Collier, of Jersey. If, as I presume, Dr. Collier is in a condition to substantiate his claim to priority, he will, I hope, receive a reward, from the British Government.

In speaking of the comparative merits of individuals in connexion with the matter under consideration, I conceive it to be only an act of justice to Mr. Liston to say, that he is entitled to participate in the honour of the discovery, from being the promulgator of it in a way which has rendered it instantly subservient to suffering humanity.

The history of this discovery affords, I suspect, an example, of which we have many in our art, that there is often a long pause between the actual knowledge of a remedy and its general adoption. This is a subject on which much might be said.

Castletown, Mona's Isle,
Feb. 1847.

Medical Trials and Inquests.

COURT OF QUEEN'S BENCH.

February 5th.

HAINES v. HOOPER.

Action against a Druggist for Damages, in consequence of Injury done by the supply of improper Medicine—Remarks on Counter-PRACTICE.

MR. CROWDER and MR. SMITH were counsel for the plaintiff, and MR. M. CHAMBERS and MR. LUSH for the defendant.

This was an action brought to recover compensation for an injury the plaintiff had sustained through the alleged carelessness of the defendant. The plaintiff was a servant at an hotel in Covent-garden, and the defendant was a druggist in Great Russell

Street, Covent-garden. She had been taken ill with cramp in the stomach, and a person was sent over to the defendant's shop to procure something which would give her immediate relief. The woman went over to the defendant's shop and delivered her message, and she received from the assistant a *bottle of something*, for which she paid 4d., and had a verbal message that the contents were to be taken immediately. It turned out that the plaintiff was very shortly afterwards taken alarmingly ill; other medical practitioners were called in, and it was with great difficulty her life was saved. The following evidence was adduced for the plaintiff:—

Jane Cox said—I saw Mr. Hooper's assistant in the shop. I told him that I had come from Mr. Rockley's hotel, and that Martha Haines had the cramp in the stomach, and required something to relieve her, and I hoped that he would be reasonable in his charges, as the woman was a poor servant. The assistant poured something out of a bottle, and I paid him 4d. *He gave it me*, and I took the draught to the hotel, and went up to the plaintiff's bed-room. I twice asked the assistant how the contents of the bottle were to be given, and he said, "*all together; and that if it was not strong enough I was to come back again.*" After plaintiff had taken it she became very ill. Mr. Brookes was then sent for, and he told me to go over to Mr. Hooper. I did so, and I saw him and his assistant. I delivered a message to Mr. Hooper from Mr. Brookes. I took the bottle with me. Mr. Hooper said, "You silly woman! you have taken the wrong bottle." I told him he knew nothing about it. He said, "Don't you come here to make a piece of work like that, because we are so very particular in everything sold out of the shop," and he told me to go away home. I went over the second time. He snatched the empty bottle out of my hand, and said, "I should not have it again." I said, if he had given me poison I would not part with the bottle. *Cross-examined.*—I saw the assistant pour liquid out of two bottles into the phial, and then he corked it up.

Amelia Rockley.—Jane Cox brought a phial, which she delivered to me. There was a label on it, "*the drops*," but no directions about its being taken. Jane Cox told me it was to be taken at once. After Haines had taken a great portion of it, she objected to taking any more. Some portion of it was left. In about ten minutes I observed her foaming at the mouth, and in convulsions. I sent for Mr. Brookes. Mr. Brookes sent for a stomach-pump, which was applied. Inquiries were made of the assistant by Mr. Brookes. The servant re-

mained ill for a considerable time. We were compelled to discharge her because she lost her voice. She was easier after the application of the stomach-pump. Previously to this she appeared to be a person of very good constitution. She is now so much altered that I should hardly know her. *Cross-examined.*—I did not see anything written upon the outside paper, although I looked to see if there were any directions upon it. I never knew an instance of drops being taken but by drops.

Mr. Brookes.—I am a surgeon in Bedford Street, and was called in upon this occasion. The patient was alarmingly ill; her hands were applied to her throat and her stomach. Finding she had taken something from Mr. Hooper's, I made inquiries, and was given a bottle. I tasted the contents, and found something acrid. I begged Cox to go and ask Hooper to put down on paper what he had sent. She returned with two bottles; and told her to ask Mr. Hooper to come to me immediately. The bottles she brought over had contained black draughts. I asked if they had given the whole contents of the bottle labelled "The Drops?" Miss Rockley said she had. The assistant came over and told me *what had been contained in the phial; if given in large quantities it would destroy life. I used the stomach-pump, or otherwise I believe she would have died.* She was very ill afterwards, and the next day I thought she was dying. I requested a second opinion, and Dr. Davis was called in. She was in a state of danger for some days, and at the present moment is suffering from it. I was in attendance upon her for a month at the hotel, and I have seen her repeatedly since. She now suffers extreme weakness; palpitation of the heart, and extreme debility. She will suffer for a length of time. *Cross-examined.*—I have the pleasure of knowing Mr. Hooper. I should say he is a particularly skilful, careful man. He supplied all the medicines after I was called in. I had frequently employed him, and believe every prescription had been properly made up. In this case I believe the description the assistant gave me of the mixture was correct.

Dr. Davis.—I was called in, and saw the young woman. She was then unconscious. I could not open her mouth. It was evident she had taken some acrid; she had extremely dangerous symptoms, and continued so for two or three days. I saw her some weeks afterwards. She had then lost her voice, and there was a good deal of derangement, and she was much weakened. Her constitution had received a considerable shock.

Mr. CHAMBERS then addressed the jury on behalf of the defendant, contending that the defendant was a person of the highest

reputation, and no one could deplore this unfortunate circumstance more than himself; but this really was an accident, or Jane Cox, in consequence of its being a very wet and dirty day, had taken up her clothes, and had then taken up the wrong phial. Unfortunate accidents would happen. Every precaution was taken in the defendant's shop, and two questions would arise: first, had Mr. Hooper competent skill to carry on his business? and, secondly, had he an assistant of competent skill and ability, and had he exercised upon this occasion reasonable care? Upon this phial there appeared the words "The Drops," and any person would have been aware that the whole quantity was not to be taken, because the very words so inscribed upon the phial would have indicated to the party that care was to be taken, and that the contents of the phial were only to be taken in drops. It was a very important question as to what extent a chemist was to be bound. The law has said, You must render yourself competent to *dispense medicine*, which shall be beneficial to your fellow-creatures; and if you are absent you must be assisted by competent persons. If a man who did this was not protected, no person would enter into that business but persons of reckless character who cared not what they did. All persons owed much to medical men, and therefore all must be careful; when those persons were placed in a difficulty, all were bound to give them a good turn. The learned counsel then called the following witness.

R. Howding.—I was assistant to Mr. Hooper, and had been with him three years and a half. I remember Cox coming to the shop; she asked me for a remedy for a fellow-servant, who had cramp in the chest. Never having heard of such a malady I went to Mr. Hooper, and at his suggestion I made up a draught, and affixed to it a printed label, "the draught." I then folded it up in paper, and put it across the counter immediately in front of Cox. She paid for it, and I gave her verbal directions to give it to her fellow-servant as soon as she got home. She stooped down, and I resumed an occupation which I had left to serve her. She left the shop, and Mr. Hooper came into the shop. He said, "What bottle is that?" and I then saw the bottle I had given the woman. I called after her; she paid no attention and went on. I said, "She has left her bottle; she will be soon back after it." There had been another bottle on a shelf on the glass-case, containing drops. That was two feet from the woman. It had been made up by Mr. Hooper for a customer, and was waiting to be fetched by him. I did not

miss that bottle until Cox came into the shop and said her fellow-servant was taken very ill. She then took back the bottle that was intended to have been taken. Mr. Hooper told her she was a stupid woman, and had taken the wrong bottle. The draught I had made up for her was still there. *Cross-examined.*—I had not known Cox before. I had heard the gentleman order the drops in the course of the morning. He had constantly had them made up. I heard the gentleman order the drops that day. I don't know whether I put the bottle into Cox's hand or not. I believe I put it on the counter, close to her. I was looking in her face, giving directions to her to give it to her fellow-servant immediately. She stooped down under the counter for three or five seconds, and I then resumed my former occupation. The draught I made up for her was tincture of rhubarb and opium. *Re-examined.*—The woman did not come back again for two hours. I am quite sure I never gave to her the bottle with the drops.

By the JUDGE.—The glass-case is the whole length of the counter. The draught would be nearer to the door than to the drops.

Mr. Justice WIGHTMAN, in summing up, said, that the question was, whether they were satisfied, from this evidence, that the deleterious matter taken into the stomach of the plaintiff, and which had caused, no doubt, considerable suffering to the plaintiff, was taken by her in consequence of the negligence and carelessness of the assistant of Mr. Hooper? because if it was through his carelessness or negligence, through his mistake—a mistake arising from culpable negligence—then the plaintiff would be entitled to a verdict; or, did they think that the woman, from her own carelessness, had taken up the wrong bottle? There was nothing like an imputation against Mr. Hooper—quite the contrary; but however hard it might be, still, according to law, he was answerable for the carelessness or negligence of those persons who were employed by him. There was no doubt but the woman got the wrong bottle, and the real question was through whose carelessness that arose?

The jury returned a verdict for the plaintiff, damages £150.

. The evidence given in this case shows that a mistake had been made either by the woman who went to the druggist's for a fourpenny "bottle of something," or by the druggist's assistant. The jury believed the witness for the plaintiff; and returned a verdict with heavy damages. Our readers will perceive that these must be occasionally the unfortunate results of counter practice.

We take it that Mr. Hooper is a druggist, and the evidence of Mr. Brookes went to show that he was, in his opinion, a particularly careful and skilful man. We do not find Mr. Hooper's name in the Medical Directory as a licensed medical practitioner, and therefore we presume that the catalogum of Mr. Brookes was intended to apply to the defendant as a *dispenser*, and not as a *prescriber* of medicine. It is very likely that, as his counsel urged, he may possess competent skill and ability to carry on his business, i. e. of a druggist: but this action would never have been brought against him, had he not ventured beyond his business, and as it appears to us beyond the rules of ordinary prudence, in *prescribing* medicine for a person whom he had not seen, upon the mere statement of an ignorant charwoman, that the plaintiff was labouring under "cramp in the stomach," and wanted a bottle of something! Had he visited the patient and then prescribed for her, he would probably have rendered himself liable to an action on the part of the Apothecaries' Society; but it would be a lesser evil to the public to have these occasional violations of the act, than to have its provisions evaded by the dangerous risk which must always attend the prescription of medicines for a person, the real cause and seat of whose illness can never be communicated by ignorant individuals. The English law is, then, in this absurd state. An unlicensed person who prescribes for another after having seen the case and formed a judgment of what medicine may be required, is liable to a penalty. He, however, who does not take this prudent and proper precaution, although he may by the neglect jeopardize the life of the patient, is subject to no penalty, unless some such mistake as that proved in the present case occurs.

We cannot help remarking that an impenetrable mystery is preserved by the witnesses respecting the nature of "the drops" which were taken by mistake. We are told that the liquid was acrid, and that if given in large quantities it would destroy life. Whether it contained sulphuric acid or caustic potash, or any similar substance, one inference may be certainly drawn from Mr. Brookes's statement of its properties and from its severe effects on the plaintiff—namely, that the bottle containing the said "drops" should not have been lying either on a counter, on the shelf, on a glass case, or in any situation in which an ignorant person might on a rainy day, in adjusting her dress, take it up by mistake for innocent medicine!

MAXIM.

He alone discovers a truth who proves it.

Medical Intelligence.

STATISTICAL ACCOUNT OF THE ACCIDENTS BROUGHT TO THE LONDON HOSPITAL DURING THE YEAR 1846, AND COMPARED WITH THAT OF 1845.

Admitted as in-patients . . . 2358
Treated as out-patients . . . 4660

Total during the year . . . 7018
In-patients—Male . . . 1757
" Female . . . 601

Total in-patients . . . 2358
Out-patients—Male . . . 3248
" Female . . . 1412

Total out-patients . . . 4660

Total accidents brought during the		
	year 1842,	5503
" "	1843,	5666
" "	1844,	6101
" "	1845,	6555
" "	1846,	7018

Increase in 4 years . . . 1515

ST. BARTHOLOMEW'S HOSPITAL

ON Wednesday, the 10th inst., at a general meeting of the court, Mr. Eusebius Arthur Lloyd was unanimously elected full surgeon, in the place of Mr. J. P. Vincent, late senior surgeon of that establishment, who has resigned.

PUBLIC LECTURES ON PAINLESS SURGICAL OPERATIONS.

We perceive in the public journals an advertisement that lectures are to be delivered at the Egyptian Hall "on Surgical Operations without Pain, under the influence of Sulphuric Æther, illustrated by experiments and operations, by an *eminent Professor* and a Member of the College of Surgeons. &c. Reserved seats, 3s.; back seats, 2s.; gallery, 1s. The *eminent professor* cautiously abstains from giving his name, and, in a spirit of *mala fides*, he does not even announce the nature of the surgical operations, with the sight of which the public are to become familiarized. For any thing that appears to the contrary, the operations may consist in the extraction of corns: and Professor Wolff, who was recently driven out of Suffolk by Dr. Wake*, may appear on the metropolitan stage with some of his "bristly spicula;" or it may be that some dentist in want of practice, is adopting this ingenious plan of bringing himself before the public. We cannot believe that any "Member of

the College of Surgeons" has so completely lost all respect for his profession as to vulgarize a useful discovery of this kind, the only proper arena for the employment of which is the operating theatre. This would be going beyond the meamerists, who, with all their quackery, have, with a few exceptions, kept their exhibitions within the bounds of decency. In this case either common decency will be violated, or the advertisement is a hoax.

A CHINESE VIEW OF THE ASIATIC CHOLERA—CHINESE THERAPEUTICS.

THE following official announcement was published at Ning Po, when the cholera first appeared in the province of Che Kiang:—

All persons are hereby cautioned that there have recently appeared near the town of Sian, in the province of Che Kiang, several idle vagabonds from other provinces, representing themselves to be Buddhists, or priests of Tao, and dressed as beggars, or as foreign merchants, pretending to ask for alms; in short, vagabonds under various disguises. These persons carry about them poisoned articles of food; and when unobserved, either give them to children, or throw them on the ground, that children may pick them up and eat them. When swallowed, death takes place immediately. People demand what can be the cause of these sudden deaths, and no one knows what to reply. The body is carried off to a cemetery and buried: but these monsters who deal in poisons, mark the place where the body of the child is buried, and under cover of darkness, they disinter it, and tear out the eyes, kidneys, and brain.

In case of accident, the best plan to save life is to take immediately funs-ting to promote vomiting: as a purgative tax-kio-sing may be taken. If the poison has been swallowed for some time, the best remedy is earth-soup, which is thus made:—Make a hole in the earth, pour into it a little water, stir it well, and then swallow a few mouthfuls. Litharge in water, or green-pea soup, may be also taken; or, what is still better, cut the throat of a chicken, and swallow the blood as it jets out, and while it is quite warm. If the poison has been swallowed only a few seconds, the best remedy to excite vomiting is oil.

Respect this.

* * We have taken the above paragraph from a late number of the *Gazette Médicale*. By a double translation the document has lost the peculiar style characteristic of the proclamations which are issued from the "inner flowery land." We may laugh at the folly of the Chinese, but it must be within the memory of our readers, and our

* See Letter, page 266.

Lectures.

A COURSE OF

LECTURES ON DENTAL PHYSIOLOGY AND SURGERY,

Delivered at the Middlesex Hospital School,

By JOHN TOMES, Esq.

Surgeon-Dentist to the Hospital.

LECTURE X.—continued.

Cause of caries.—Theories of dental caries.

—Analogy of dental to osseous caries.—Tables of the relative frequency of caries in the different teeth, and in different parts of the same teeth.—Causes and the treatment of caries.

Causes of dental caries.—Many of the causes which favour the chemical decomposition of dental tissue may lead also to the loss of vitality which renders it susceptible of decomposition. Thus, an imperfect development of the enamel on the sides or in the natural fissures of the teeth, and a consequent exposure of the dentine to the contact of whatever may be taken into the mouth, is a very frequent cause of caries. There are but few who have not at some time experienced most unpleasant sensations, oftentimes amounting to pain, in teeth perfectly sound, when acids or sweets are taken into the mouth. In these cases, the irritating fluid must have passed through the enamel and come in contact with the dentine, which we know is sensible, while the enamel is not.

Patients are occasionally met with who state that they were attacked with pain in several sound teeth; that the pain left, but, after the lapse of a short time, the teeth decayed, and left only stumps.

After fever, and especially scarlet fever, teeth, before quite sound, in some cases rapidly decay. The same occasionally occurs after salivation. Children of a scrofulous diathesis are liable to lose their teeth by caries at an early period; also persons who suffer from indigestion with excess of gastric acid. A residence in a low damp situation is said to be a frequent cause of this disease.

Many writers assume that where teeth are crowded, great pressure is exerted upon the lateral surfaces in contact, that this causes a disarrangement of the fibres of the enamel, and thus leads to disease. I am disposed to doubt whether this is a frequent cause; you will very commonly see a most crowded set of teeth, and yet no caries. Again, if lateral pressure were a frequent cause, you would naturally expect to find those teeth the most subject to pressure, the first to decay, and, farther, the

parts of the tooth subject to the pressure would be those first affected. Yet neither the one nor the other point is borne out by experience; on the contrary, the first permanent molar is the most liable to become diseased, and the masticating surface, the point most commonly attacked, and yet this tooth is less liable during its development and eruption to lateral pressure than any other in the mouth.

Relative liability of the various teeth to caries.—For some time past I have kept a register of every case that has come under my treatment at the hospital. The case-book has a tabular arrangement, and in each entry the name and age of the patient, and the teeth affected, are noted each in their proper columns. In those cases requiring the removal of teeth (and forty-nine out of fifty are of this character), the situation in which disease has commenced, and the instrument used in extracting the tooth, are also noted. The cases relating to permanent teeth which occurred in 1845, and the first six months of 1846, have been partially summed up, and the results arranged in the forms I now lay before you. In those instances in which it has been difficult to tell with certainty, from the extent of destruction, where the caries commenced, the probable situation has then been stated. Excepting this occasional source of error, the tables may be perfectly relied on.

I should state in explanation, that, in each case requiring removal, whatever may have been the condition of the tooth rendering immediate operation necessary, if caries was the cause of that condition, the entry was made under the head of caries. A carious tooth will often lead to alveolar abscess, but when this has been the case, as caries was the primary cause of the disease, the case has been registered as caries.

Again, destruction of the crown by caries will occasionally be followed by exostosis of the fang: the case has then also been registered as caries.

Under the head of looseness are included teeth loose from various causes, though nine-tenths have been from absorption of the alveoli, the teeth themselves being sound.

It would be a waste of time to enter into any description of the relative liability of each part of a tooth to disease, as a perusal of the following tables will give you all the definite information I possess upon the subject, and that too in a much more satisfactory form than a mere statement would be.

Statistical Tables of 1736 Cases of Dental Disease, treated at the Middlesex Hospital.

Of the 1736 permanent teeth extracted from all causes—

44 were central incisors,
65 „ lateral incisors,
39 „ canines,
150 „ first bicuspidés,
231 „ second bicuspidés,
642 „ first molars,
389 „ second molars.
176 „ third molars.

Of these, 1480 were removed for the relief of diseases commencing in caries of dental tissues.

Of the 1786 permanent teeth extracted from all causes—

44 were CENTRAL INCISORS : of these—
20 were from males, and
24 from females.
36 from the upper, and
8 from the lower jaw.

Of the 36 from the upper jaw—

13 were stumps,
7 were fractured,
7 were loose,
2 were dead,
1 for decay on the lateral surface,
1 inflammation of gum and periosteum,
3 for abscess,*
2 projected.*

Of the 8 from the lower jaw—

5 were loose from absorption of the alveoli,
1 was dead,
2 were out of line.

Of the 1736 permanent teeth extracted from all causes—

65 were LATERAL INCISORS : of these—
33 were from males, and
32 from females ;
51 from the upper, and
14 from the lower jaw.

Of the 51 from the upper jaw—

2 were fractured,
8 for want of space,
7 were loose from absorption of the alveoli,
4 for decay on the posterior surface,
8 „ external „
8 „ lateral „
1 „ masticating „
1 „ not noted where,

14 were stumps,

1 for cause not registered,
1 for necrosis,
2 for abscess.

Of the 14 from the lower jaw—

6 were loose from absorption of the alveoli,
6 for want of space,
1 for cause not registered,
1 for tic douloureux.

TABLE IV.

Of the 1736 permanent teeth extracted from all causes—

39 were canines : of these—
19 „ from males, and
20 „ from females,
29 „ from the upper, and
10 „ from the lower jaw.

Of the 29 from the upper jaw—

In 2 cases the lateral surface next the lateral incisors was attacked with caries,

2 „ lateral surface next the bicuspidés,
„ lingual surface,
„ labial surface,
1 „ masticating surface,
1 „ situation not noted,
5 „ stumps,
7 „ looseness,
9 „ out of line,
1 „ inflammation of the gum involving the periosteum of the fang,
1 „ Cause not registered.

Of the 10 from the lower jaw—

In cases the lateral surface next the lateral incisors was attacked with caries,

1 „ lateral surface next the bicuspidés,
1 „ lingual surface,
„ labial surface,
1 „ stumps,
3 „ looseness producing irritation and pain,*
2 „ out of line,*
1 „ abscess in the alveolus,*
1 „ Tic douloureux was supposed to arise from the presence of the tooth.

TABLE V.

Of the 1736 permanent teeth extracted from all causes—

150 were first bicuspidés : of these—
70 „ from males, and
80 „ from females,
121 „ from the upper, and
29 „ from the lower jaw,

Of the 121 from the upper jaw—

In 19 cases the anterior surface was attacked with caries,

45 „ posterior surface,
3 „ lingual surface,
2 „ buccal surface,
2 „ masticating,
„ situation not noted,
22 „ stumps only were present,
9 „ looseness occasioning irritation and pain,
13 „ space was required for the anterior teeth,*

* The teeth sound.

* The teeth apparently sound.

1	„	necrosis,*
1	„	Inflammation of the gum,*
1	„	abscess in the alveolus,*
1	„	tic douloureux.*
1	„	Cases not registered,
1	„	The tooth was loose, and when removed found to have no fang, none having been developed.

Of the 29 from the lower jaw—

In 7 cases the anterior surface was attacked with caries,

7	„	posterior,
7	„	lingual,
2	„	buccal,
5	„	stumps only remained,
4	„	looseness occasioning irritation and pain,
2	„	space was required for the anterior teeth.

TABLE VI.

Of the 1736 permanent teeth extracted from all causes,—

231 were SECOND BICUSPIDS: of these, 115 were from males, and 116 from females; 147 from the upper, and 84 from the lower jaw.

Of the 147 from the upper jaw—

In 30 cases the anterior surface was attacked with caries,

52	„	posterior	„	„
2	„	lingual	„	„
1	„	buccal	„	„
4	„	masticating	„	„
1	„	situation not noted.	„	„
29	„	stumps.	„	„

In these 119 cases, caries was the primary cause of the loss of the teeth.

15 cases looseness

1	„	space
1	„	necrosis
„	„	inflammation
3	„	abscess
1	„	tic douloureux.
1	„	fracture
1	„	connected with dead bone
3	„	causes not registered.

Of the 84 from the lower jaw—

In 16 cases the anterior surface was attacked with caries

29	„	posterior	„	„
3	„	lingual	„	„
3	„	buccal	„	„
5	„	masticating	„	„
14	„	stumps.	„	„

In these 70 cases, caries was the primary cause of the loss of the teeth.

10 cases looseness

* The teeth apparently sound.

1	„	necrosis
1	„	tic douloureux.
2	„	for causes not registered.

TABLE VII.

Of the 1736 permanent teeth extracted from all causes—

642 were FIRST MOLARS: of these— 337 were from males, and 305 from females; 259 from the upper, and 383 from the lower jaw.

Of the 259 from the upper jaw—

In 71 cases the anterior surface was attacked with caries

40	„	posterior	„	„
7	„	lingual	„	„
6	„	buccal	„	„
75	„	masticating	„	„
„	„	situation of disease not noted	„	„
35	„	stumps only remained.	„	„

In these 234 cases, caries was the primary cause of the loss of the teeth 11 cases looseness, occasioning irritation and pain

1	„	necrosis of the anterior fang, produced pain
2	„	inflammation of the gum—teeth sound
5	„	pain in the teeth, rendered the removal advisable—teeth sound
6	„	causes not registered.

Of the 383 from the lower jaw—

In 68 cases the anterior surface was attacked with caries

54	„	posterior	„	„
6	„	lingual	„	„
22	„	buccal	„	„
177	„	masticating	„	„
38	„	stumps only remained.	„	„

In these 365 cases, caries was the primary cause of the loss of the teeth.

5 cases looseness, occasioning irritation and pain

2	„	pain rendered removal requisite
1	„	abscess of the alveolus

In these 8 cases the teeth were apparently sound.

6 cases causes not registered.

TABLE VIII.

Of the 1736 permanent teeth extracted from all causes—

389 were SECOND MOLARS: of these— 195 were from males, and 194 from females; 141 from the upper, and 248 from the lower jaw.

Of the 141 from the upper jaw,

In 26 cases the anterior surface was attacked with caries

21	„	posterior	„	„
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6	„	lingual	„	„
12	„	buccal	„	„
25	„	masticating	„	„
24	„	stumps only remained.		

Of these 114 cases caries was the primary cause of the loss of the teeth.

19 cases the looseness occasioning irritation and pain

1	case	necrosis
1	„	abscess
1	„	pain
2	„	inflammation of the gums, &c.
1	„	fracture of the jaw.

In these 25 cases the teeth were apparently sound.

2 cases causes not registered.

Of the 248 from the lower jaw—

In 22 cases the anterior surface was attacked with caries

22	„	posterior	„	„
3	„	lingual	„	„
45	„	buccal	„	„
107	„	masticating	„	„
32	„	stumps only remained.		

Of these 231 cases caries was the primary cause of the loss of the teeth.

9 cases the looseness occasioning irritation and pain

1	„	necrosis
1	„	pain

In these 11 cases the teeth were apparently sound.

6 cases causes not registered.

TABLE IX.

Of the 1734 permanent teeth extracted from all causes—

176 were THIRD MOLARS; of these—
97 were from males, and
79 from females;
60 from the upper, and
116 from the lower jaw.

Of the 60 from the upper jaw—

In 12 cases the anterior surface was attacked with caries

3	„	posterior	„	„
1	„	lingual	„	„
12	„	buccal	„	„
10	„	masticating	„	„
11	„	stumps only remained.		

In these 49 cases caries was the primary cause of the loss of the teeth.

6 cases looseness, occasioning irritation and pain

1	„	abscess of the alveolus
1	„	inflammation of the gum, &c.
2	„	pain without decay.

In these 10 cases the teeth were apparently sound.

1 „ cause not registered.

Of the 116 from the lower jaw—

In 14 cases the anterior surface was attacked with caries

6	„	posterior	„	„
1	„	lingual	„	„
21	„	buccal	„	„
40	„	masticating	„	„
11	„	stumps only remained.		

In these 93 cases caries was the primary cause of the loss of the teeth.

12 cases looseness, occasioning irritation and pain

1	„	exostosis of the fangs and thickening of the jaw
1	„	the tooth decayed, and producing <i>tic douloureux</i>
1	„	abscess of the alveola—teeth sound

3 „ the teeth were developed with the crown projecting forward, and producing great pain

5 „ causes not registered.

The consequences of caries are various: the disease may commence and progressively destroy the crown of the tooth, and very little pain may be felt during the process; or, it may be arrested after the destruction of the crown, and the roots of the tooth may remain in the gums, and give little or no inconvenience. But, on the other hand, pain may commence with the disease; the pulp, as the disease advances, may become inflamed, and if the tooth is not removed, the inflammation extends to the dental periosteum, and be followed by alveolar abscess: the pain all the while increasing. Not only alveolar abscess may arise as a consequence of caries, but periostitis of, and subsequent necrosis of, a large portion of the jaw. There is an out-patient attending the hospital at this time who is suffering from necrosis of the right side of the lower jaw, which was occasioned by inflammation set up by a carious tooth. Tumors of the gums may arise as a consequence of caries, as also may fungous growth of the pulp; but, as these diseases will come under our notice at a future lecture, I need not do more than refer to them now.

Treatment of dental caries.—Lost vitality in a tissue we cannot restore, neither should we gain much if we could, when the loss is confined to that portion of a crown of a tooth protected by enamel, seeing that the dead part is as useful as before, supposing that it be enabled to resist decomposition. In our treatment, then, what we have to do is to enable the affected tooth to resist future chemical change, or, if partially decomposed, to replace the lost part by some substance that will itself resist the action of the saliva, and prevent it from coming in contact with and injuring the dentine; or, if the disease has destroyed the crown of a front tooth, to replace it, if required, and the root be healthy, by an operation called pivoting.

But, as the treatment will to a considerable extent be regulated by the extent and situation of the disease, it will be expedient to describe the treatment adapted to these several conditions.

Treatment of superficial caries.—If, then, the disease is of very small extent, and indicated by slight discolouration of the enamel, and if on examination by a pointed steel probe it is found to be superficial, it will be sufficient, whatever the situation, to remove the affected part by a scalpel, or file, and afterwards to well polish the exposed dentine; at the same time directing your patient to keep the surface polished, otherwise the exposed tissue will soon be decomposed by the saliva should it chance to be acid. It is no uncommon thing to find that many teeth are attacked at the same time; on inquiry, you will generally hear that your patient has acid saliva from indigestion, or has been taking medicine containing a mineral acid. In either case it will be well for the patient to use an alkaline dentifrice, and in the latter to rinse the mouth with a weak solution of carbonate of soda after each dose of acid medicine.

On attempting to remove the carious portion, however superficial and small in extent it may be, the tooth will sometimes be so tender that the operation cannot be borne: the slightest touch of the instrument is attended with intolerable pain. Whenever this is the case, the operation should be postponed till the sensitiveness of the affected part is reduced. The most ready means of effecting this, is by rubbing powdered nitrate of silver, or any other escharotic, on the sensitive part with the end of a piece of whalebone, or cane. Chloride of zinc is perhaps the best application, as the effect is speedy, and the tooth will not be discoloured. The operation may then be proceeded with, and should the surface again become tender before the completion, the escharotic must again be applied. A prolonged application of camphorated spirits of wine will sometimes subdue the sensitiveness; but when the disease has attacked the exposed neck of the tooth, commencing on the surface of the cementum,—a situation in which we find extreme tenderness more frequently than in any other,—the camphorated spirits is difficult of continued application.

But if, instead of finding the disease superficial on examination, the probe sinks to some little depth into the tooth, indicating thereby that to that depth the dentine is deprived of its earthy ingredients, then we must have recourse to the operation of plugging. The softened dentine must be removed by conveniently shaped steel instruments. The whole of the softened tissue having been removed, the cavity must be wiped dry, and then carefully filled with

some substance which will resist the action of the constituents of the saliva, and will be sufficiently hard to resist injury in mastication. Metals are the only substances found to combine these qualities. Gold, platinum, tin, or lead, reduced to thin foil, and packed tightly in the cavity, forms an efficient plug: gold being the most valuable, the others following in the order in which they are placed. An amalgam of palladium or silver may be used with advantage in cases where the cavity is so situated that it becomes inconvenient to pack densely gold or other foil.

A plug is effective only so long as it perfectly excludes all extraneous matter from the cavity; thence it follows, that in order to fill a cavity with metal foil, considerable compressive force must be used. You will at once, therefore, perceive that should the caries have extended so far as to reach the pulp cavity,—though by careful management the softened dentine might be removed,—yet the patient would be quite unable to bear pressure unless considerable precaution be used, even in the most favourable case; and when the surface of pulp exposed is considerable, the operation could not be borne, and if borne, would produce inflammation of the pulp. In many cases, however, your patient will not apply for relief until the disease has not only progressed to the pulp cavity, but the softened dentine removed so as to make a communication between the pulp cavity and the mouth, thus exposing the sensitive pulp to the action of the many fluids and the various matters taken into the mouth. In this case the pulp itself will be more or less diseased. The exposed surface may be inflamed, and throw off a discharge, or it may have receded partially or wholly from the pulp cavity, leaving the vacated space to be occupied by extraneous matter. So that it is of considerable practical importance to learn whether the pulp has been exposed by the removal of softened dentine during the operation, or whether it has been previously exposed. In the one case, plugging, if so managed as not to produce pressure on the nerve, may be successful; in the other, it will, if performed, be followed by ill consequences, as the discharge from the pulp will be confined, and the usual distressing symptoms, indicating pus confined in an unyielding cavity, will result. It is a very good practical rule, if, in removing the softened dentine, or in pressing a probe in the cavity, pain is felt, but only so long as the instrument remains in contact with the tooth, to proceed to plug the cavity; but, if the pain continues after withdrawing the instrument, to postpone plugging, and resort to some means to restore the pulp to a healthy condition, or to produce its destruction; for the

continuance of the pain is a tolerably sure sign that the pulp is more or less involved in disease, and that if the tooth be immediately plugged that inflammation will supervene.

The diseases of the pulp, and their treatment, as also the operation of plugging, will occupy our attention on a future occasion.

Original Communications.

ON THE

TREATMENT OF FACIAL NEURALGIA BY THE INHALATION OF ETHER,

AND ON A NEW INHALER.

By FRANCIS SIBSON, Esq.

Resident Surgeon, General Hospital, Nottingham.

IN the following cases of neuralgic affection of the face and head, the inhalation of the ether was attended with immediate relief from pain:—

Martha Tansley, a pale fair-haired young woman, married, aged 21, of a remarkably soft fine skin, very susceptible of the influence of cold, applied at the hospital as an out-patient (under Dr. Storer) on the 2d of January, suffering from an "aching, springing, jumping pain" in the left side of the face: she felt as if a sharp instrument were run into the cheek. Violent paroxysms usually came on after each meal, and lasted about two hours. The pain increased and subsided gradually, but never disappeared except during sleep. She had suffered from the pain in the left side of the face during three weeks, and during the previous eighteen months from neuralgic pain in the right side of the face.

She took, on her first application, a dose of castor oil and turpentine; after the action of which she had the third of a grain of the extract of belladonna three times a day, in the manner detailed in Dr. Hutchinson's paper on the Employment of Belladonna in Neuralgia. She persevered with the belladonna, with but little relief, until the 8th, when the sesquicarbonate of iron, following another purgative dose of castor oil and turpentine, was substituted for it. She continued the use

of the iron until the 29th, when the face being worse, she was directed half a grain of the extract of belladonna three times a day.

On the 30th she came to the hospital, suffering from agonizing pain in the right side of the face. She inhaled the ether. In about two minutes the pain disappeared. She was quite conscious, had no agreeable or exciting sensations, but felt "rather numbed all over her." The object being merely to obliterate the pain,—not to annihilate consciousness or general sensibility,—the inhalation was discontinued. In about ten minutes, the pain, which had returned to a slight degree, was again removed by the inhalation. A few minutes after its discontinuance she felt faint. She soon recovered, and walked home an hour afterwards.

About three hours after the administration, a "feeling of jumping" came on for an instant in the left side of the face, and after supper the same side "ached and jumped" for a few minutes.

Next morning she was quite free from pain. She resumed the belladonna three times, and sometimes twice daily, with the effect of exciting a dry prickling sensation in the mouth and fauces, dimness of vision, "numbness all over her," and general sleepiness. She was quite free from pain until the 4th of February, about 2 o'clock, when she felt a slight aching in the left side of the face for an hour. She ceased taking the belladonna on the 5th of February. To-day, the 6th, she is quite free from pain, she feels much better in general health, and her appearance is much improved.

On the evening of the 8th, the neuralgia returned, first on one side of the face, then on the other. The pain was not very severe: it lasted until the afternoon of the 9th. She was free from neuralgia until the 13th, on the afternoon of which day she had a severe return of the "jumping" pain. After inhaling the ether through the nose and mouth for a short time, the pain ceased. The face ached a little in the night.

Pain returned on the evening of the 14th. After inhaling the ether a short time, she lost consciousness; she gradually became sensible, but remained some time in a drowsy state.

15th.—She had some return of pain from 10 A.M. until 2 P.M., when it went off.—Capt. Bellad. Ext. gr. ss. ter die.

Mary Peach, a rather dark hazel-eyed girl, having a smooth skin, usually but little susceptible of cold. She had very good health until last August, when, after cessation of the catamenia, she was attacked with "aching jumping" pain in the face, coming on at night, and affecting the warm side of the face. Two months since, she suffered from pain in the chest. About three weeks since, she suffered from neuralgic pains in the temple and forehead: sometimes on one side, sometimes on both sides.

On the 2d of February she suffered much from a very severe "leaping" pain in both temples. She inhaled the ether through the nostrils, and in about a minute the pain disappeared. She felt rather dizzy, but was not otherwise affected. In a few minutes the pain in the right temple returned. She renewed the inhalation both through the nostrils and the mouth. She was not rendered unconscious, and the pain, though much subdued, did not entirely disappear from the right temple.

The pain in the left temple and in the face did not return, and in the course of the night the pain in the right temple disappeared. She had not been free from pain for a fortnight.

On the 3d of February she took a purgative dose of castor oil and turpentine, and afterwards half a grain of extract of belladonna three times a day. She experienced no sensible effect from the belladonna, neither dimness of vision nor dryness of the fauces.

She continued free from pain until the 7th, when she had a "jumping" pain in both temples, which made her hot and feverish over the whole body. The pain in the temples gave place to aching pain in the face, which disappeared this morning, the 8th February.

9th.—The pain returned yesterday evening in the right temple as bad as ever, and lasted until dinner time to-day; it has now (one o'clock), nearly disappeared.—Capt. Bellad. Extr. gr. ss. ter die.

Feb. 8th.—M. A. Corbett, an out-patient of Dr. Hutchinson's, a dark-complexioned young married woman, who has usually had very good health.

During the last six months she has suffered from pain in the stomach after food, and from leaping pain in the top of the head striking through to the temples; the left temple being the most frequently and severely affected.

This morning, Feb. 8th, she suffered from a "leaping pain in the top of the head, striking through to the left temple." After inhaling the ether through the nostrils about a minute, the pupils dilated considerably, she breathed convulsively, and became restless and obstinate. The inhalation was discontinued. When she became quiet and rational she was free from pain, but felt dizzy and sick. She states that it is two months since she has been so free from pain as she now is.

9th.—The pain in the head and temple has not returned; she has been dizzy and rather sick since the inhalation. She still suffers from pain in the stomach.

Feb. 8th.—Catherine Spencer (an out-patient of Dr. Hutchinson's), a florid sensitive young woman, aged 19; she has suffered during the last five weeks from pain in the left temple, as if a knife were running into it, and from a leaping pain in the left cheek, also from epigastric pain and abdominal tenderness.

She is now weeping, owing to pain in the left temple and cheek.

After inhaling ether a very short time through the nostrils, almost unwillingly and in a sobbing manner, the pupils dilating and contracting, and finally dilating, she suddenly became unconscious, the eyes fixed and open. When consciousness returned she was free from pain, and she is so now, three hours after the inhalation.—To remain in the hospital.

It is six weeks since she has been free from pain. She has scarcely slept during that time; if she dropped asleep, in about ten minutes the pain came again "as if it were killing her."

9th.—Nausea lasted about half an hour after the inhalation. During the evening she felt pain in the legs, and while walking to bed the use went suddenly from her limbs, and she dropped on the floor. She had a rigor after getting into bed. The pain continued in the legs all night; indeed she still complains of it. She has no pain in the face, nor, indeed, anywhere, save in the legs.

10th.—The pain went from the legs yesterday evening; she has no facial pain, and she feels better in every respect; but she is unable to sit up, owing to weakness in the back.

14th.—Pain in the right side of the face returned this afternoon: after ethereal inhalation producing unconsciousness she was free from neuralgia.

16th.—She has been free from neuralgia since the last inhalation; she now suffers somewhat from epigastric pain.

M. Eggleston, æt. 37, an out-patient of Dr. Storer, by whom she was sent on the 13th of Feb. to inhale the ether. She has suffered from pain on the left side of the face for two years. During the last six weeks the pain has been unusually severe, accompanied by complete aphonia, and by constant convulsive movements of the jaw to the right side.

On inhaling diluted ether (the ferrule being open), through the nose and mouth for 75 seconds, she became unconscious; the eyes being turned up, the pupils contracted. She recovered consciousness in 65 seconds, the pupils at the same time dilating. In a few minutes, there being slight return of pain, re-inhalation was practised, and again repeated with the effect of removing the pain. On one occasion, when the full volume of ether was admitted, she could not inspire: when the ferrule was opened, so as to dilute the ether with air, she fetched two deep inspirations, and immediately became unconscious.

At the beginning of the inhalation the jaw was in constant rapid convulsive movements: about ten minutes after the fourth and final inhalation her voice returned. She remained perfectly free from pain, and the convulsive movements of the jaw ceased.

15th.—Pain in the face, and convulsive movements of the jaw, returned yesterday.

In the evening, the convulsive movements of the jaws and head were constant: after inhalation they ceased, and she became unconscious. The inhalation at first irritated her, and increased the convulsive movements: but for the nature of the nose and mouth-piece the inhalation could not have been exhibited. In a few minutes consciousness returned, and, though she was still drowsy, the pain and the

convulsive motions returned. A short inhalation again produced unconsciousness; on recovering from which the pain and movements recurred. Twice was this process repeated. After the last time she remained some time in an unconscious state; and on recovery she was free from pain and the convulsive movements.

Feb. 16th.—She remained free from pain until this morning, when it returned, though in a mild form.

Phœbe Godby, a patient of Dr. J. C. Williams. A full-faced dark girl, aged 17. She has suffered during the last seven weeks from violent pain on the left side of the face. The pain became worse after the incomplete extraction of some carious teeth: the molars are carious, and the alveolar sockets irregular.

After inhaling the ether some minutes, the facial pain went away. The pain returned in the night.

Dr. Williams directed the repetition of the ethereal inhalation from time to time.

On the 15th, after inhaling the ether a short time, she became unconscious: on coming to herself she was free from pain.

Mr. Attenburrow, one of the surgeons of this hospital, administered ethereal inhalation in a case of anæmic hysterical neuralgia, with the effect of removing the neuralgic pain.

The above cases, in addition to a case of neuralgia in which Mr. Lonsdale, of Bristol, treated a paroxysm successfully with ethereal inhalation (*Lancet*, p. 159), and to several cases of a like character, similarly treated by MM. Menière and Honoré (*Lancet*, p. 176), prove that the paroxysms of neuralgia can be cut short with something like certainty by the inhalation of ether. They also show that the neuralgic pain will usually not return until some time has elapsed after consciousness is restored. This period of freedom from suffering varies; on some occasions extending only over a few hours, on others over some days.

It would be irrational to expect the cure of neuralgia by the unaided means of ethereal inhalation, but we certainly possess in it the means of cutting short the paroxysms of that distressing malady, and of rendering the system more amenable to a scien-

tific treatment directed either to the sources or the symptoms of the disease. We must regard the ethereal inhalation, in fact, as the precursor and handmaid of a more enduring treatment.

We have more reason to hope for relief and benefit from its employment in those cases of neuralgia, due to a reflected morbid sensation in the facial nerves, excited either in the nerves of the deranged digestive organs, skin, or uterus, than in those cases of neuralgia depending on disease of, or pressure upon, the nerve.

Neuralgia is so capricious, and in many persons so peculiarly mental a disorder, that I feel that the above cases rather indicate the course of an important inquiry, than prove that ethereal inhalation is of further value in the treatment of neuralgia than as an almost certain means of putting an end to a paroxysm.

Since the above cases and remarks were written, the following is a sketch of the further history down to this day, Feb. 22d.

Martha Tansley. Left the hospital on the 16th. I learned from her husband on the 20th that she is much worse; the pain is more violent, and she feels weaker. She has not persevered with the belladonna.

M. A. Corbett. She has suffered but once, for about ten minutes, from the leaping pain since the inhalation: this was about ten days since. She is now, Feb. 23d, free from pain in the head and temples, but she still complains of sickness and pain in the stomach, and she has occasional attacks of pyrosis. — Powders of bismuth, rhubarb, and ammonia, to be substituted for a mixture hitherto taken, containing prussic acid, soda, and spirits of lavender.

Catherine Spencer. The facial pain has not returned. On the 21st of February, she began to take half a grain of extract of belladonna three times a day. To-day, Feb. 22d, she has had leeches to the pudenda.

M. Egglestone. On the 17th of February she was directed half a grain of extract of belladonna three times a day. She has continued to take the belladonna since, and has had a belladonna plaster applied behind the left ear.

On the 17th, pain and convulsive movements returned. They were removed on the 18th by four successive ethereal inhalations.

Pain and convulsive motions again returned on the 19th, and were again removed on the 20th by four repeated inhalations.

The pain and convulsive movements returned to-day, and were easily removed by three inhalations administered in immediate succession. — Continue the belladonna.

Phœbe Godber. The pain remained away until the 17th, when she was obliged to go into the town; she caught cold, and shortly after she re-entered the hospital: the neuralgic pain returned. Ethereal inhalation removed the pain on the 18th, and again on the 20th.

She now, Feb. 22d, suffers from occasional neuralgic pain in the face, and from pain in the epigastric region.

In addition to the above cases, the following has been observed:—

Thomas Head, æt. 25, a framework-knitter, a pale brown-haired man, of firm texture, whose habits have been steady, and whose health has been good, applied on the 18th of February with pain in the course of the left frontal nerve, which had been periodical for ten days, lasting from about nine o'clock every morning until four in the afternoon.

He inhaled the ether for about ten minutes. Is excited; occasional coughing and dyspnoea. The neuralgic pain became much less severe; indeed, at one time he stated it was gone, but afterwards he found that there was still a little pain, which went off about four o'clock.

A dose of castor oil and turpentine brought on frequent and painful micturition.

On the 19th, the neuralgic pain, hitherto periodic, did not return. He has not been to the hospital since the 19th.

The last case, and the continued history of the previous cases, corroborate the remarks made above.

In the case of Tansley, all treatment ceased, and she has become much worse; while in the cases of Corbett, Spencer, and Egglestone, general treatment has been carried out, and Corbett and Spencer are altogether free from neuralgic pain: and Egglestone enjoys

longer and longer periods of intermission between the paroxysms.

The case of Godber shows the importance of retaining cases of neuralgia treated by ethereal inhalation under supervision in the comfortable wards of a hospital. Her case, which up to a certain point proceeded so favourably, has been complicated, and its treatment rendered difficult, by the injurious effects of exposure to cold.

In the case of a man, Joshua Gibson, aged 60, a collier, affected for ten weeks with sciatica, Dr. J. C. Williams, on the 13th of February, directed the inhalation of ether. After the first inhalation he became unconscious; on coming to himself he had a rigor: he was free from pain. The pain returned in the course of the night.

He re-inhaled on the 15th, and again on the 18th; each time unconsciousness was produced, followed by a rigor. The pain, necessarily annihilated during the unconscious state, returned each time with the return of consciousness. He thinks he is worse since he inhaled the ether.

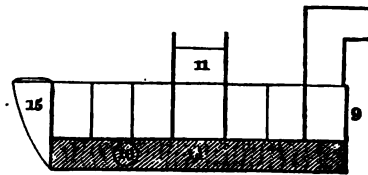
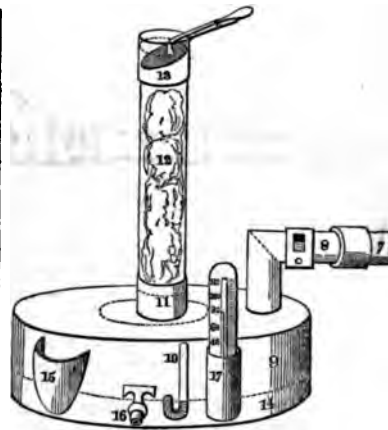
In sciatica the trunk of the nerve is affected in a more distressing manner than the extremities; while in the above cases of facial neuralgia, the extremities of the nerves were the chief seat of pain. Sciatica is a very different disease from that kind of facial neuralgia due to reflective morbid sensation excited in the nerves either of the deranged digestive organs, skin, or uterus.

We cannot infer that because ethereal inhalation is a serviceable aid to treatment in neuralgia, that it will therefore be of service in sciatica.

The above case, though not benefited by the ether, does not, however, prove that in other cases of sciatica ethereal inhalation may not be of value,—a point that extended observation can alone decide.

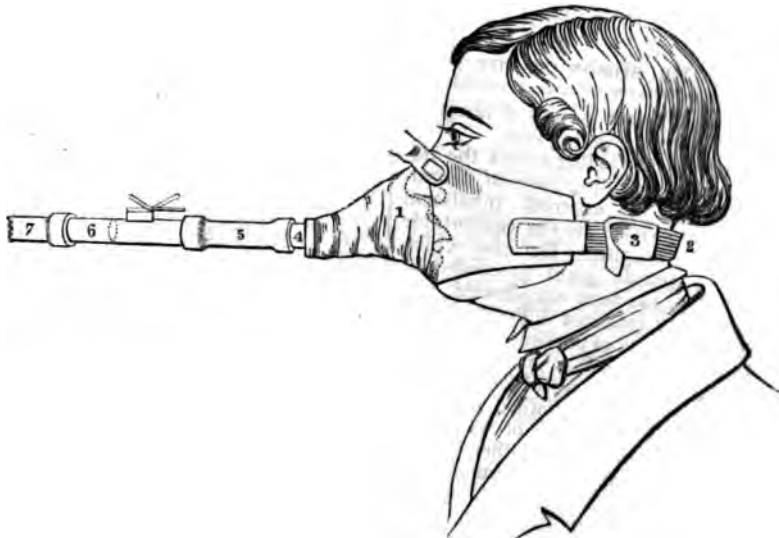
The apparatus figured and described above presents the following advantages:—

The spiral inhaler (9) of Dr. Snow is attached to a chamber (14) capable, if needful, of holding warm water. The ethereal evaporation is further increased at will by the current of inspired air passing through a sponge in a tube (12) before it enters the spiral chamber.



This principle is adopted from Mr. Attenburrow's inhaler. Air can be admitted in any proportion through the opening at 8 to dilute the ethereal vapour during the first inspirations. As this opening is at a distance from the mouth and nose, the air and the ethereal vapour are thoroughly mingled before they enter the larynx. If the opening is near the mouth-piece, the ether and air enter in two separate adjoining streams. The supply of ether can be regulated. The various parts of the apparatus can be joined together and disjoined with rapidity and ease. The inhalation can be carried on either in the recumbent or sitting posture, by turning the valve-piece (6) on the mouth-piece (5) and elastic tube a quarter of a revolution. The lever on the valve at 6 can be pushed below the edge of the vulcanized India-rubber tube, and so the patient can breathe air without removing the nose and mouth-piece. The current of respired air is very easy, the tubes through their whole course being wide, indeed nowhere narrower than 5-8ths of an inch.

All the above points are important, but the most important feature in this apparatus is the nose and mouth-



- 1, Nose and mouth-piece — a funnel fitting, as closely as possible, over the nose and mouth, made of Macintosh, lined with oiled silk. The thumb compresses it over the nose, the fingers, if needful, over the chin.
- 2, Vulcanized India-rubber strap to keep the nose and mouth-piece in its place by means of
- 3, A buckle.
- 4, 5, Two inches of vulcanized India-rubber tube attached to the mouth-piece.
- 6, Brass tube with valves. The outer valve is almost poised by a lever; the inner valve is closed by a weak spring.
- 7 7, Eighteen inches of flexible tube.
- 8, Brass tube, with an opening closed by a ferrule.
- 9 9, Spiral ether-chamber.
- 10, Glass tube shewing the quantity of ether in the chamber.
- 11, Tube opening into the ether-chamber.
- 12, Tube containing a sponge saturated with ether.
- 13, Valve admitting the air and confining the ether.
- 14, Chamber containing warm water.
- 15, Funnel to pour in warm water.
- 16, Tap to draw off the water.
- 17, Thermometer to indicate the temperature of the water.

Amendment since the apparatus was figured.

The piece of brass (4) is dispensed with. Dr. Snow's ether chamber, instead of being round, is square. The ether chamber is half an inch, the warm water chamber is one inch, in height.

piece (1). This is brought over the nose and mouth, and the person inhaling cannot help breathing through it; he breathes, too, without annoyance, and without pressure on either the nose or mouth. He can breathe at will either through the nose or mouth, or through both conjointly. Mr. White, one of the surgeons of this hospital, threw out the idea.

The difficulty, the baffling difficulty, in every other apparatus is the almost impossibility of ensuring the inhalations when the patient is on the verge of unconsciousness, or when there are convulsive or intoxicated strugglings and resistance to the inhalation. The

ethereal vapour is largely mingled with atmospheric air, the patient is re-awakened to consciousness, the work has to be begun afresh, and the difficulty of influencing him increased, if not rendered impracticable. Besides, restless, irritable, excitable, hysterical, sobbing persons, and, above all, stupid persons, often cannot be induced or taught to inhale properly. In certain cases of tic, where the jaws are in constant convulsive movement, as in the case of Egglestone, it would be quite impossible to get them to inhale through a mouth-piece. Through the nose and mouth-piece figured above, inhalation can be carried on in the most refrac-

tory. It passed through several stages before it came to its present simple form. I first constructed a nasal inhaler in the earlier cases of tic; it answered very well, they being easily excited. I afterwards tried to combine a nasal and an oral inhaler in one instrument: at length I bought a common sixpenny mask, lined it within with oiled silk, cut away the septum of the nose, the lips, and the whole circumference of the mask to within an inch of the nose and mouth. I then pasted a funnel of Macintosh cloth over the nose and mouth, and over this a piece of Macintosh to go over the cheeks; to these I attached a vulcanized India-rubber strap and buckle. When this is fastened, the nose and mouth-piece fit delightfully. Usually all that is needed is to compress the nose-piece with the finger and thumb against the sides of the nose; and in the most difficult subjects it is only needful to bring both hands together, the fingers under the chin, the thumbs to each side of the nose, and the head pressed back against one's own body.

I have tried this mouth-piece on a remarkably lantern jawed shrivelled old man, a crying boy, on several girls, and on every variety of subjects, and in all the adaptation was so complete that they could not breathe at all when the opening for air was closed*.

REMARKS ON

INHALATION OF THE VAPOUR OF ETHER.

By A. FAIRBROTHER, M.D.

THE following case of amputation of the thigh proves the insensibility by ether to be of a peculiar kind, and to vary considerably in different individuals in the nature and extent of its physiological effects: just as wine, spirits, tobacco, opium, &c. produce sometimes various effects from those ordinarily found to follow their use, so, as might be expected, is also the case with the vapour of ether. It may, in some cases, act as an excitant, and, in others, produce coma, or

it may be attended with effects strongly resembling the nitrous oxide or laughing gas. It is probable that the variations of the symptoms observed in this case may in some degree depend upon the quality and quantity of the ether, rather than on the difference of constitution or peculiarity of temperament: two ounces of unwashed ether instead of one ounce, as has been previously employed. Mr. Squire has observed the marked difference in the effects produced on the same person in the same evening, by first inhaling the washed ether, and producing pleasurable sensations; next the ordinary rectified ether, those of an unpleasant character, and shortly after the pleasant sensations being recovered by inhaling the unwashed ether. Dr. Fairbrother has tried both the washed and unwashed, and no dreams have followed. The washed ether has, however, several advantages; for instance, its taste is not so disagreeable, which removes the objections of some persons to inhale it; it does not leave such an unpleasant flavour in the palate for a long time, and is less likely to induce coughing, irritation, or inflammation of the lungs, small quantities of sulphuric acid and of alcohol being contained in the common ether, while the inhalation of vapour of alcohol might induce a prolonged state of insensibility, and a degree of reaction which might prove inconvenient if not dangerous to the patient.

Mr. Hooper has observed that the result of the inhalation of ether was less speedy when the patient was given to drinking, and the effects took place earlier in young people than in old.

Velpau mentions that healthy patients are affected more rapidly than diseased subjects; strong constitutions sooner than weak ones. The temperature at which the vapour of the ether is inhaled considerably modifies its effect.

"This circumstance," observes Dr. Snow, "would in some measure explain the variety of the results, and account for some of the failures." The operator did not at present know the quantity of vapour they were exhibiting with the air, and would vary immensely according to the temperature of the apartment. It will be seen by some calculations made by him; thus, 100 cubic inches of air saturated with the vapour of ether, at a temperature 40

* I intend to send the nose and mouth-piece to Mr. Weiss and Mr. Ferguson: it may be adapted to any apparatus.

degrees, contains 27 cubic inches of the vapour.

44° contain 27 cubic inches.

54° " 34 "

64° " 43 "

74° " 53 "

84° " 66 "

So that if the temperature of the water in which the inhaler is placed was 65°, 70°, or 75°, consequently the proportion of vapour in the air inspired would be 44, 50, and 55 per cent. respectively.

This demands attention, but the temperature of the room may be easily ascertained, and regulated with a little care.

Dr. Malgaigne fancied reaction after the operation in which the patient has been etherised, rather weaker than in ordinary cases.

The most remarkable peculiarities of this case were the resemblance to a fit or paroxysm of hysteria, or the effects of some powerful stimulus or mental excitement. During the protracted inhalation she was occasionally restless, throwing her hands about, screaming, screeching, and betraying other marks of uneasiness, the ether inducing to all external appearance a serious practical obstacle to the operation. It is, however, strictly physiological to believe that contortions of the face and limbs may take place during operations as purely reflex acts, without any volition or emotion of pain; there may be even a cry apparently of pain without consciousness of pain, in the same way that epileptics frequently cry out before falling into convulsions without any subsequent recollection whatever of pain or fear—(Lancet, Jan. 16th). The phenomena of intoxicating delirium furnish us with ample proof that an individual may experience powerful physical and mental suffering, or sensation, of which at a subsequent period he may be entirely unconscious, especially in dreaming; that people may cry and scream in their sleep, without knowing anything of its cause, after having awakened: and that during profound states of coma they would sometimes start and make noises, while there is plainly nothing but organic sensations remaining—(Medical Times, Jan. 23d). This is perfectly consistent with the fact; this case showing a peculiarity of some practical importance the inhala-

tion of the vapour of ether is not rendered less useful or beneficial for not producing an anodyne or composing effect in the employment of surgical operations.

CASE. — Thursday, Jan. 28th. — In the presence of a numerous assemblage of professional gentlemen and interested spectators, the ether vapour, as an antidote to pain, was tried for amputation of the thigh. This is the third limb which has been removed within the last month at the Bristol General Hospital, whilst the patient has been under the influence of the ethereal vapour. An interesting and delicate girl, of nervous temperament, 15 years of age, dressmaker, suffering from disease of the knee-joint, which had existed nearly seven years. Various remedies had been used without avail, and she dreaded the pain of the operation exceedingly. Having been told that a female aged 63 had had her leg amputated without pain for disease of the bones and ankle-joint of 18 months' standing, from which she had suffered the most agonising pain at times, the strongest narcotic medicine producing scarcely one hour's sleep at night, and who had inhaled the ether occasionally with the best effects, in allaying the pain, and who went out of the hospital and refused to submit to the operation until she had learnt that it could be removed without pain, as in the case of the young man who had had his thigh off whilst in the etherised condition some time previously,—she then returned to the hospital, and readily assented to its being removed:—(both of these individuals are quite well, and in a state to leave the hospital: no unfavourable symptoms of any kind have manifested themselves)—the young girl consented to have the operation performed. There were four experimental trials of the inhalation of the ether, which only produced, to all appearance, temporary insensibility. At a little after 1 o'clock she began to inhale the vapour of ether preparatory to the operation, from the bladder, which was administered by Dr. Fairbrother.

After inhaling the ether a few minutes, the patient seemed insensible, when the operator, Mr. Lansdown, commenced. The instant, however, the knife touched her, she cried out, put her hands down to the part, and

betrayed other marks of uneasiness. After half a minute to a minute the operation was then proceeded with, and signs of apparent suffering were not to be mistaken, so much so that it induced some gentlemen, who witnessed its effects, to imagine that the operation was felt, and the patient was aware of it, and was conscious of what was going on. The pulse remained unaffected, and the pupils dilated, fixed, and did not act during the whole time: the breathing laborious two or three times, but the withdrawal of the tube from the mouth (which was held so firmly between the teeth that it required some little force to get it out) quickly removed this comatose state. The inhalation of the ether was prolonged to twenty minutes, with an occasional intermission: the skin not sensible on being sharply pinched. After the operation was completed, and on awakening to a state of consciousness, and asked if she had suffered any pain, or had any knowledge or recollection of what had been done, she expressed no knowledge, or was not aware of what had passed, and said she had had a dream, and thought she was at the bar of judgment pleading for mercy, and that God Almighty was punishing her for her sins: the first thing that she was conscious of was seeing the gentlemen standing round her bed. After being removed to the ward (about twenty minutes after the operation), several hours afterwards, and repeatedly since, in the presence of several persons, she declared that she suffered no pain or other inconvenience, and that she was not aware that she cried, screamed out, or struggled with her hands; the only thing she recollects is the dream before mentioned: all this she states with an air of sincerity, and there is no reason for questioning her veracity, as she bears a very good moral and religious character, and the dream is that which might be expected from such an individual. It therefore becomes a question whether the writhings and distorted features in the case above described are to be regarded as proof that the operation occasioned at the time the actual agony of which such symptoms are the usual evidence, or whether they were mere "instinctive movements." The result, then, on the question of pain during the ethereal surgical operation

we witnessed, amounted to this—"that in this case there is no proof whatever that any pain was suffered, and that the manifestation of pain during the operation is supposed" [opposed?] "by the positive statement that no pain, suffering, or knowledge of the operation was experienced."

This case also shews the curious fact, that in the two cases before mentioned, in which there was no evidence of pain or suffering, they being quite calm and motionless, the pulse fluctuated remarkably during the operation, and the pupils were very much contracted; but in this case the pulse continued exactly the same as before and during the operation, and the pupils were dilated and fixed. In the evening she was cold and chilly; oozing of blood took place from the stump; she had nausea and vomiting, the pulse was very feeble and weak, and she complained of a disagreeable taste in her mouth from the ether. In the course of the next day all passed off, no subsequent bad consequences have occurred, and she has gone on favourably up to the present time. It is a great gratification to this young creature, who would have been the subject of excruciating pain during the amputation if performed in the usual manner, that there was a perfect cessation from all pain whilst in the etherised condition.

Bristol General Hospital,
Feb. 1847.

THE EFFECTS OF ETHER.

By W. PHILPOT BROOKES, M.D. M.R.C.S.
England.

Surgeon to the General Hospital and Dispensary, Cheltenham.

SINCE reporting my former case, I have successfully performed the following operations under the effect of ether:—

Ann Weston, æt. 69, living at No. 1, Burton Street, had been suffering for the last twelve months with fistula in ano, and had been, during the whole time, confined to her bed: she was of a very nervous, debilitated habit, and would not give her consent to the performance of an operation; but, upon hearing of my former painless case, she sent for me, and desired to have the operation performed. On examination, I found the whole verge of the anus in a state of ulceration, accom-

panied with great pain; the probe discovered a fistulous sore extending full four inches into the rectum. It was done in two days afterwards. The patient was laid on her back, with her head elevated so as to have no difficulty with the ether, the buttocks raised, the knees drawn up and held apart. I then passed up my finger and inserted the director, when the inhalation of the ether commenced (with merely a bladder and an elastic tube), and she was in a complete state of unconsciousness in two minutes. The bistoury was then introduced, and the fistula divided in its whole length, without her showing the least symptom of pain or uneasiness. When it was over, I asked her if she had quite made up her mind to have it performed: she said "Yes; go on with it as quickly as possible." When told it was done, she expressed great surprise. At this operation the following gentlemen were present: Drs. Wright, Bagnall, Bell, and Smith; Messrs. Eves, Orrell, Peart, Tibbs, Alesse, Rowe, Norman, Churches; and all were perfectly satisfied with the result.

The next case was that of Ruth Monk, aged 21, who wished to have the last molar tooth extracted under the ethereal influence. She is of a full plethoric and excitable habit. In one minute and a half she was in a state of unconsciousness, from the ether, and became quite unmanageable; her face flushed, and she required two persons to hold her. I lanced the gum without any sign of pain, and she recovered her sensibility immediately. As she was very anxious to have the tooth extracted, she again inhaled, and, when under the influence of the ether, some excitement returned, and, on drawing the tooth with the claw, she cried out "Oh!" but, on coming to herself, stated she had had no pain, and, having had out nine teeth before, she could judge of its effects, and said, "I will never lose another tooth except I am prepared in a similar manner, so as to give no pain."

Feb. 1, 1847.—The following cases were operated on to-day, in the presence of fifteen gentlemen, most of them members of the profession:—

John Coombes, aged 56, a labourer on the roads, residing at Charlton, of a strong plethoric habit of body. Whilst at work, he met with an accident (three

weeks back) to the middle finger of the right hand; mortification took place, and the first joint sloughed away: still, he would not consent to the loss of the finger, and the disease extended to the metacarpal bone.

Having heard he could have it taken off without suffering any pain, he applied this morning to have the operation performed. The ether was inhaled and the man under its effects in six minutes. He remained so for five more. The finger was taken off by a Y-shaped incision, and by dividing the metacarpal bone half way down with Liston's bone-nippers: [he exhibited no] sign of pain, and stated that he heard the bone cut, but positively asserted he felt no uneasiness of any kind, and grumbled much at the suffering we gave him in taking up the arteries afterwards.

I allowed this case to remain for half an hour before I dressed it, as I am inclined to think secondary hæmorrhage will often occur after the effect of the ether has passed away: reaction does not until then become perfectly established; small arteries often escape untied if we dress the wound immediately, and union will not take place so well, on account of extravasation of blood. The pulse in this case was, before the operation, 84, and during the ethereal process it varied from 60 to 70.

William Guy, aged 21, residing at No. 44, Duke Street, of a pale exsanguineous habit of body, has had phymosis from syphilis for several months, and, wishing to have the glans penis liberated, submitted to the . . . was inhaled, and produced its effects in three minutes. This was performed by dividing the skin down to the end of the gland, without any sign of pain, and he states he did not feel anything of it. Pulse, when in the ethereal state, was 75, and soft; and before that time, was 90.

A servant, aged 30, had four stumps extracted without giving her the slightest pain, by Mr. S. Tibbs, surgeon-dentist, of this town. The ether was inhaled from a modification of Dr. Snow's apparatus, and she was put under its influence in less than two minutes, and remained so nearly five, and positively states she felt nothing.

Lot Argan, aged 36, residing in Grove Street, of a spare habit of body, has had a disease of the left elbow-joint for the last year or two, and would not

* The MS. is here deficient.—ED. GAZ.

consent to its being amputated before; but his general health becoming injured, he now consented. The ether was given with Dr Snow's apparatus; and after its inhalation (nearly four minutes) he appeared quite unconscious; the healthy arm dropped involuntarily to the side when raised; the eyelids closed, and all the usual signs of insensibility to pain. The circular incision was now made through the skin, and he cried out most lustily, and continued doing so through the whole stage of the operation. After it was all over, he stated that he felt the first cut, and also felt the bone sawed, but he was in a dream, smoking a pipe, which some one tried to take from him.

I can only view this case as a failure; and I think it right alike to report all cases, whether failures or not. The other cases were decidedly satisfactory.

I may state that, in the above operation, the mouth-piece did not fit nicely to the mouth, and that the man appeared to have inhaled fresh air by its side.

Aldion House, Cheltenham,
Feb. 1847.

EXFOLIATION OF THE PATELLA.

By FELIX WM. LYON, M.R.C.S.
Formerly House-Surgeon to St. Giles' Infirmary.

J. F., an old sailor, æt. 73, had been freely indulging in the festivities of Christmas; he fell asleep in the evening by the kitchen fire-side of an inn where he resided; he continued sleeping there until the family were about to retire to rest, when he was aroused and assisted to bed.

I was sent for to attend him two days afterwards, because he had "burned his knee." I found the integuments surrounding the joint much swollen, and an eschar occupying a spot over and corresponding in size with the patella.

On inquiring how the accident occurred, and on examining the kitchen grate, I could only account for it (for he knew nothing of it himself) by supposing that the patella had been in contact with a brass knob—the handle of an oven which was attached to the grate; that the man had fallen asleep and slept heavily; that during sleep, his mind losing, to a certain extent, its control over the muscles, the knee

gradually fell against this knob, and remained in contact with it while he slept. But it may be urged that the man, finding his knee painful, would have awoke;—possibly; but he slept again, and the same thing happened; or it may be that, reposing in an almost apoplectic slumber, his senses were not very acute. However, of the sensation of burning, I can speak from *personal experience*. I was once superintending some brewing, when the spigot fell out from the tap of the mash-tub. Finding the beer running away, I placed my hand over the tap until I could get assistance. For a few seconds, the pain was severe; but this soon abated, and left only a sensation of warmth easily borne: its consequences, however, were not so pleasing, for a patch of integument, corresponding with the size of the calibre of the tap, was completely destroyed, and sloughed out. I suspect that there was some analogy in the two cases.

I will not occupy your columns or waste the time of your readers by entering into a detail of the treatment; let it suffice for me to observe, that it was that which reason suggested or necessity required. But I may perhaps observe, that I do not remember a case in which the good effects of opium in quieting irritability were better shewn.

The case was a long and tedious one. After the expiration of some months, that portion of the patella which I send you exfoliated, and the man recovered, retaining a fair motion of the joint and almost as good a use of his limb as he had before the accident.

Wandsworth, Feb. 1847.

. The specimen which Mr. Lyon was kind enough to forward to us for inspection, is left with the printers, Messrs. Wilson and Ogilvy.

CASE OF DISLOCATION OF THE RADIUS BACKWARDS.

By F. J. SANDFORD,
Surgeon, Newport, Shropshire.

On the 16th of August last, a gentleman driving a spirited horse having got out of his gig, had still hold of the reins, when his horse ran away and pulled him down, the reins being at

the same time forced from his hands. In falling, the left carpus came violently in contact with the ground, whilst the forearm was in a state of pronation.

Upon careful examination, the following appearances were observed. The forearm was slightly flexed, and the hand in a state of pronation. The hand and fingers were also flexed. Every attempt at supination caused a considerable amount of pain. With the exception of a slight prominence to the outer side of the olecranon process, and behind the external condyle, there was no perceptible change in the form of the elbow joint. Upon attempting a semi-rotatory motion of the forearm the head of the radius with its articular circumference could be distinctly felt in its new position.

Reduction was readily effected by extending the forearm and making counter-extension on the upper arm, firm pressure being at the same time made against the displaced extremity of the bone.

The arm was bent at a right angle, and a splint, compress, roller, and a sling applied. The aforesaid appliances were retained for nearly three weeks. At the expiration of that period it was only deemed advisable to continue the bandage. Passive motion was commenced in about a week, and was afterwards practised daily. When I last saw the patient, three months after the accident, there was still some degree of stiffness felt each time pronation was performed.*

Cases of dislocation of the radius backwards from an injury or accident are extremely rare, as is very evident from the fact that Sir Astley Cooper never met with one of the kind in the living body, and only by mere chance had an opportunity of seeing such an accident in the dissecting room. Desault affirmed that dislocation of the radius backwards could not be suddenly produced by an external cause, but some of his contemporaries had opportunities of proving that his supposition was unfounded. Only six or eight cases of this form of dislocation are recorded as having occurred in the practice of British surgeons.

Newport, Shropshire, Feb. 1847.

* I attended the above case with George Duncalf, Esq.

MEDICAL GAZETTE.

FRIDAY, FEB. 26, 1847.

In a recent number of this journal we announced that the Prussian Government, on the recommendation of the Council of Health, had issued an ordinance to prevent the occurrence of accidents from mistakes in prescriptions in which powerful medicines were ordered. Thus we are told that a maximum dose has been fixed for each medicine, and the dispenser rendered himself liable to a heavy penalty, if, although ordered in the prescription, he should dispense a larger dose than that fixed by law. When it is the intention of the prescriber to go beyond the legal maximum, he is required to state this specially on the prescription. Under these circumstances, if the patient died through an over-dose, all blame was taken from the druggist, and the physician clearly convicted himself either of absolute ignorance of the properties of drugs, or of a deliberate intention to poison his patients. Although a rule of this kind may appear to us arbitrary and despotic, yet its tendency is to save the lives of the public, and to prevent an undue share of responsibility from being thrown upon the party who dispenses the drugs.

A case which occurred last week in the metropolis is well calculated to shew, by contrast, the indifference of our Government to any efficient control of the medical profession. A young female in a state of perfect health is destroyed by the administration of a powerful poison, which we believe no well-informed physician would have prescribed, and no well-informed druggist would have dispensed. Such a case is well calculated to excite alarm in the public mind, and to shew that

the lives of persons are hourly placed in peril by taking prescriptions from self-styled M.D.'s, and having them made up at the nearest druggist's shop. A life has here been sacrificed apparently through the grossest carelessness or ignorance, and the law will speedily have to decide upon whom the responsibility will fall. Our object by the remarks we are about to make is not to anticipate what may be the verdict of a jury, or what legal sophistry may be brought into exercise, by the payment of a liberal fee, to prove that patients must be occasionally poisoned, and that no one was to blame for this unfortunate result: it is rather to shew that the whole of the proceedings which led to the sad event were of the most irregular character, and that in all probability they would not have taken place under a proper legislative superintendence of medical and pharmaceutical practice.

In the first place, the prescriber calls himself "Dr." Cronin, when it is plain, from his own admission, that in England he is merely an apothecary, and has no right to assume the title of "Doctor." The shameful manner in which certain German Universities have sold their degrees, and thus for a few pounds converted English apothecaries into *Doctors* of Medicine, has been long known to the profession; and in the several Medical Reform bills, now abandoned, a clause was introduced to punish those who paraded themselves under these false titles. The public are not likely to mistake a German for an English baron, but they have, unfortunately, no means of discriminating between the possessor of a mock diploma and a genuine English physician. Our College of Physicians has much to answer for by its former exclusive restrictions in allowing England to be overrun with the possessors of these Giessen and

Erlangen diplomas; and in not even attempting to put down the assumption of a title by which ignorant persons are so easily deceived.* These strictures are not intended to apply to all the possessors of German diplomas: some among them have undoubtedly obtained the documents fairly and honestly, but, in a very large majority of cases, they have been procured by venality and trickery, and have answered the disgraceful purpose of nominally raising to a higher grade, men who either had no legal qualification to practise medicine in Great Britain, or who had contrived to obtain a bare *legal* right to practise in the lowest grade; *i. e.* under an Apothecaries' certificate. If a man of this stamp inscribed on a brass plate his only legal title to practise, it is very well known that he would procure no patients; the certificate, admitting him to possess one, is therefore reserved to shelter him from any criminal or civil procedure on the part of the Apothecaries' Society: while he makes use of a German diploma, to assume a title to which in this country he has not the slightest legal claim. This case, then, has developed the fact that some "West-end doctors" are nothing more than apothecaries in disguise. The sooner these borrowed plumes are stripped from the wearers, the better for the public and the honestly practising members of our profession.

Mr. Cronin, the writer of the prescription which has thus led to the untimely death of a young female, represents himself as the possessor of a London certificate of the Apothecaries' Society. This may be; but we have to observe, that his name does

* A medical correspondent of the public journals states that this practice is no longer pursued at Giessen. This may be: but it would be more satisfactory to learn that the University authorities had returned the fees and erased the names of those who had obtained their diplomas without *bonâ fide* residence and examination.

not occur in the recently published Medical Directory: and, as the Society of Apothecaries takes no pains to lay yearly before the public and profession a complete list of those upon whom they confer a certificate, it is out of our power to settle the point. One fact, however, is certain; the fatal prescription is un-English, and altogether a pharmaceutical curiosity. We here subjoin it* :—

“R. Spt. Ammon. Aromat. 2 drachms; Tinct. Opii, 16 drops; Acidi Prussici (Scheele's strength), 4 drops; Pulv. Strych. Comp. 2 grains; Aquæ Amygd. Amar. 6 ounces. M. ft. mistura equa sumatur (!) coch. ij. ter die.

Four formidable poisons in one mixture! Opium, Prussic acid, Strychnia, and the water of Bitter Almonds. Admitting the prescription to be fairly copied, it strikes us as exceedingly doubtful whether from the Latinity, the indefinite quantity ordered to be taken, and the nature of the substances which are thus jumbled together, it would have passed muster at Apothecaries' Hall. In our opinion, it would have deservedly led to the rejection of a candidate. The prescription leaves the dose of the mixture very uncertain: supposing tablespoonfuls to have been intended, the doses of tincture of opium and Prussic acid (or rather hydrocyanate of ammonia) would have been small; if teaspoonfuls were implied, then the doses of Prussic acid and opium would have been absurdly small, and such as no practitioner who desired to produce some effect by his medicines, would have ordered†. The gravamen of the case, however, consists in the introduction of a large quantity of the water of bitter almonds, and the compound powder of strychnia,—preparations of

a highly deleterious nature, altogether unknown to English pharmacy, and which should never therefore without the fullest explanation be introduced into a prescription to be deciphered by an English druggist. The patient swallowed, as it would appear, about one-eighth instead of one-sixth part of this mixture, and died very soon afterwards, obviously poisoned by Prussic acid. We need not enter into the details, as these will be found elsewhere*; but, as the dose contained about six drachms of bitter almond water, in addition to a small quantity of Scheele's Prussic acid, the fatal result can surprise no one who is acquainted with the properties of this water. Dr. Gregory, in describing its preparation, speaks of it as not a good form of administering Prussic acid, since it is difficult to obtain it of uniform strength, even when fresh.† It is in all cases poisonous. Irrespective of the prussic acid introduced, a dose of six drachms of bitter almond water (as it is commonly made), containing only one grain per ounce (the strength assigned by Gregory), would be quite sufficient to destroy the life of an adult. The full medicinal dose of such a preparation would be from thirty to forty drops. In Dr. Mialhe's “*Nouveau Formulaire Pratique des Hopitaux*,”‡ the dose is fixed at from ten to forty drops: but in the case of this female it was ordered as if it were as innocuous as the Aqua Destillata of the shops!§

* Page 388.

† Outlines of Chemistry, p. 341. He says it contains one grain of hydrocyanic acid to the ounce, but it is often much stronger than this. Mr. Bell's preparation would contain, according to his statement, rather more than one grain per ounce!

‡ P. 327.

§ Mr. Cronin inquired of the dispenser whether Mr. Bell's bitter almond water was not a highly concentrated preparation. From Mr. Bell's statement it is not stronger than it is commonly met with; and the dose assigned by Dr. Mialhe in the French formulary, shows that the continental practitioners look upon this water in any case as too concentrated a preparation for use except in drop doses.

* From a report of the inquest in the Times newspaper, Feb. 20th, 1847.

† The evidence of one of the witnesses goes to prove that the verbal order was tablespoonfuls, and that the mixture might be made up anywhere!

The Pulv. Strychn. comp. was very wisely omitted by the dispenser. Two experienced druggists deposed that they never met with it in an English prescription; it is unknown to our Pharmacopœia: and it is not even mentioned in the elaborate work of Dr. Pereira. We think, therefore, the druggist acted quite wisely in omitting to insert a powder containing so active a poison as strychnia, and of which he was unable to procure a specimen from two eminent dispensing druggists. We presume that the powder here ordered is identical with that of which the composition is given in Mialhe's formula* under the name of *Poud. e de Strychnine*.† This is a mixture of strychnia, black oxide of iron, and sugar, the two latter forming the great bulk of the powder. Mr. Cronin, it will be observed, ingeniously turned the omission of this powder by the druggist into a kind of exculpatory plea:—"the black oxide of iron," he tells us, "would have made the mixture blue, and the acid would have become inert:"—in other words, had the prescription been exactly followed, he wishes us to believe that the active properties of the medicine ordered would have been destroyed, and the patient would have swallowed Prussian blue instead of Prussic acid! The question, however, which materially concerns the public is, whether their lives are to depend upon the accident of one substance contained in a prescription entirely altering the properties of another. This would be something like prescribing poison and antidote together. We do not believe that the introduction of two grains of the compound powder of strychnia

would have neutralized in any material degree the Prussic acid present. Taking the proportions in the formula above given, the quantity of black oxide of iron contained in two grains of the powder would have been less than half a grain; and the oxide is by no means in a fit state for combination with the elements of prussic acid* to form Prussian blue. But a prescriber has no right to rely upon any accidental decomposition of this kind. He is bound to look closely to the doses and the properties of the substances which he prescribes: or in the administration of these powerful agents, the safety of the public would be continually placed in jeopardy. We doubt not, however, that the matter will receive full investigation, and that any attempt to evade responsibility upon such frivolous pretences as these, will receive a proper check.

While this case will put the German M.D. prescribers on their guard, it will equally serve to convey an important caution to the dispensers of medicines. Had the druggist known the properties of bitter almond water better than Mr. Cronin, he would have declined making up the medicine. We draw this inference from the statements made by Mr. Morson and Mr. Bell. Had the prescription been taken to either of these well-known chemists, it is probable that the life of this female would have been saved. The prescription would have been very properly rejected, as that of a person wholly ignorant of the properties of the substances ordered; or the dispen-

* P. 272.

† Strychine, 5 centigr.; Oxide noir de fer 4 grammes; Sucre, 12 grammes. M. Div. en 6 paquets; D. 1 matin et soir. It is obvious that a powder thus composed was never intended to be diffused through a six ounce mixture. The sugar would be dissolved, and the strychnia and oxide of iron separated by their insolubility. How is it possible that the dose of such a powder could be regulated under these circumstances?

* In 0.49 grains of black oxide of iron (contained in two grains of the powder) there would be about 0.36 grains of metallic iron. In Prussian blue there are to 37.8 parts of iron about 64.2 parts of prussic acid, or the elements of that body (62.2 of cyanogen). Hence 0.36 grains of metallic iron would only have sufficed to remove 0.6 grains of prussic acid, when the total quantity in the mixture could not have been, according to Mr. Bell's statement, less than seven grains of anhydrous prussic acid. Thus supposing the oxide of iron to act, it would suffice to remove only one twelfth part of the prussic acid contained in the almond water, and the Prussian blue formed would be less than a grain (0.36 gr.):

ser, before preparing so formidable a mixture, would have sought for some explanation from the eccentric prescriber.

This case will, however, serve to bring prominently before the public, the modern method of working the German diploma system—the danger of resorting to the use of medicines of which there are no recognised formulæ in the Pharmacopœias of Great Britain,—the importance of Anglo-German Apothecaries knowing to what extent they may venture to dose their patients with poisons, and at the same time, as a check upon prescribers and for the security of the public—the necessity for every dispenser of medicine having well-grounded knowledge of toxicology*.

Reviews.

Lectures on Subjects connected with Clinical Medicine: comprising Diseases of the Heart. By P. M. LATHAM, M.D., &c. &c. In two Volumes. Vol. II. 8vo. pp. 419. London: Longman and Co. 1846.

THE second volume of Dr. Latham's lectures, on Diseases of the Heart, is replete with the same valuable characteristics, and, we must also add with the same peculiarities, with which the first was so conspicuously fraught. Throughout the whole work, we meet with the evidences of the deepest reflection, and of the most philosophical caution and acumen in weighing and analysing facts, brought to bear upon the results of a tolerably ample experience, and expressed in a style which is at once lucid and elegant; but still we must not conceal the fact that Dr. Latham's book is not by any means an easy one to read, especially to those who seek merely to obtain explicit and practical information in a brief compass. The conclusions which it contains are neither unimportant nor few, but still they appear to be few in comparison with the arguments and illustrations which precede and follow them, and we cannot help

feeling, as we read, that the results are often encumbered by the details, and that the value of the produce is not always commensurate with the time and labour employed in its evolution. In fact, we cannot but think that the author's arguments—sound and philosophical as they undoubtedly are,—are too numerous and too long, that his digressions are too frequent, and that the entire subject has been over-written; although the elucidation of its main difficulties has not been so greatly advanced as we trusted it would be from our previous knowledge of the author's power of discussing the question.

Still the whole of this work is in style, facts, arguments, and conception, infinitely superior to the ordinary run of medical writings, and it is impossible to read any single chapter of its contents without at once perceiving that it is the production of a man of no common powers.

We do not consider that Dr. Latham's work is one of those which most stand in need of a very lengthy and elaborate critical analysis. A very long and very searching review is popularly regarded as a high and necessary compliment, both to the author of a good work and to the merits of the work itself; but this notion is often fallacious. Very comprehensive reviews are most applicable to those books, which the reviewer is convinced no person but himself will probably ever have the industry to peruse from beginning to end, but which contain certain useful facts which he is anxious to drag from the obscurity of the original volume, and to put forward in the more tangible form of a concise article. In short, the reviewer is bound to save his readers the unnecessary labour of wading through a large book, the facts of which might have been compressed within the limits of a slender pamphlet; but, in noticing works of real and substantial value, like the present, he is bound to advise his readers to study and analyse for themselves.

The volume before us is principally devoted to the history and treatment of those forms of permanent unsoundness of the heart which result from pericarditis and endocarditis, and other causes of structural lesion.

At the commencement of the volume, Dr. Latham makes reference to a point

* Since these remarks were written, the adjourned inquest has been held, and a verdict of "manslaughter" returned against Mr. Cronin.

which was rather fully attended to in the preceding part of his work, and which has caused considerable discussion among stethoscopists — namely, the possibility of distinguishing with absolute accuracy in every case between an exocardial and an endocardial murmur.

In referring to acute inflammation of the heart, the author observes:—

"Its clinical diagnosis is, perhaps, as nearly perfect as it is possible to conceive of any internal disease. The fact of its existence, even as soon as it begins to exist, and the discrimination of its exact seat, whether in the endocardium or the pericardium, are brought to an almost certain calculation."—(p. 2.)

It is true that there are certain rules for distinguishing between exocardial and endocardial murmurs, and that every physician usually feels himself justified in giving an opinion as to whether a given sound is produced within the cavities of the heart or upon its surface; still we have again and again seen the most experienced stethoscopist unable to give more than a suggestive opinion in acute, and even in some chronic cases, and we still regard it as almost impossible, in a given number of acute cases, to state, with demonstrative accuracy, the precise situation of the lesion which produces the abnormal sound in each.

The author very justly remarks upon the infrequency of the permanent continuance of an exocardial murmur. We have repeatedly seen great and palpable error in diagnosis committed in mistaking sounds produced by valvular defect in chronic cases, for the evidences of old pericardial lesion. Occasionally instances do present themselves in which two surfaces of roughened pericardium long continue to produce a friction sound; this we have seen where a patch of circumscribed adhesions has become gradually lengthened out and then been ruptured by the movements of the heart, and has thus left the opposed surfaces free and uninfamed, but remarkably uneven; but cases of this kind are extremely rare, and are of no real importance as leading to hesitation in diagnosis.

No question is more perplexing to the practical physician than to distinguish in a case of acute rheumatism, seen for the first time, at an ad-

vanced stage, and in a person who has previously suffered from rheumatic attacks, whether a valvular bruit, heard on applying the ear to the patient's chest, is the result of recent or of old disease, or is produced by a combination of both. The author has not succeeded in setting the question at rest, but he has discussed it with great ability, and from his observations the following may be taken as an important hint.

"I believe, that whenever the heart is re-inflamed by a fresh attack of rheumatism, there is almost always a tremendous accession of palpitation and pain. Oftentimes, however, when the palpitation and the pain have been the greatest, they have been most easily subdued. So these are no sure measure of the severity of the disease, and no sure warning of its fatal result."—(p. 57.)

The following is a very just delineation of one of the most fatal tendencies displayed in a certain class of heart diseases.

"When secondary inflammation has been thus a few times renewed in the heart, and the patient, though his life be saved, has reverted after each attack to a worse condition than before, it is remarkable how little it takes to light it up afresh. A rheumatic fever is sure to do it; even a common febrile catarrh may do it; nay, it will sometimes appear to light itself up spontaneously, and thus with a cause, or without" (?) "a cause, it will return, or seem to return, at short intervals of months or weeks, and the patient perhaps will at last die of an attack much less severe than many a one that has preceded it."—(p. 63.)

We rather object to the author's statement, that, "as a very general fact, the louder the murmur the less is the amount of valvular impediment." It is true that, in the latter stages of heart disease, depending upon extreme contraction of the orifices, the murmurs are generally weak in consequence of the diminished power of the walls of the dilated cavities, but in cases where great obstruction of one of the heart's ostia by clots, &c. is suddenly produced under conditions of acute disease, while the strength of the ventricles is scarcely at all impaired, we have generally found the intensity of the bruits nearly commensurate with the degree of structural change. Again, some of the loudest abnormal sounds

that we are ever in the habit of meeting with are those which are associated with retroversion of the sigmoid valves, and other extreme forms of regurgitant disease which are in every case virtually, though not literally, of a highly obstructive character.

The author's cases and remarks illustrative of mechanical injury to the heart, depending upon blows or shocks, will be read with considerable interest. The instances which he adduces are evidently of a mixed kind; in some it was either proved by dissection or rendered probable by the symptoms that the structures of one or other of the valves had received mechanical lesion; in others it appeared reasonable to believe that the muscular fibre of the heart had been in some degree strained or ruptured. The following case is remarkable, as showing that recovery may take place, or, at all events, that life may be very greatly prolonged, after the evidences of mechanical lesion of the heart have been very clearly present.

"A friend of mine, then two or three and twenty years of age, was dining at some distance from home, when a messenger came to tell him that his father's house was on fire. Off he set as fast as he could. And running down Oxford Street he came in fearful collision with a man who was running in equal haste the other way. Down they both fell. My friend recovered himself. What became of his antagonist he never knew. He himself crawled with some difficulty. Further than this I am not informed what was the immediate effect of the shock. But from that time he was seriously ill for many months. His symptoms were altogether referable to the heart, and consisted of excessive impulse and pain. He was attended by the late Dr. Baillie, who bled him largely. The remedy must be considered to bespeak the nature of the emergency, and the belief of some serious disease sustained by the heart. After the lapse of many months he was allowed to return to the business of life. He had then lost his *constant* palpitation. But for a few years it was wont to return painfully upon occasions of excitement. At length, he lost it altogether; and lived five-and-twenty years after the shock, and the perilous illness which followed it, actively engaged in a laborious profession" (pp. 204-5).

The above case is avowedly imperfect; still, it affords an interesting illustration of the power which nature has of repairing considerable lesions

under favourable circumstances of age and constitution.

The author's illustrations of that form of heart disease, not unfrequently observed in young subjects, in which the whole of the cavities of the heart are found considerably dilated,—the aorta remaining as small as natural, or even considerably smaller,—appear to us to be imperfect. In the example which he cites (pp. 214-15), no allusion is made to the condition of the mitral valve. We believe that, in one class of these cases—to which this instance may possibly have belonged—the left auriculo-ventricular orifice is greatly dilated, giving rise to mitral regurgitation; and we believe that, in every one of these cases, the dilatation of the heart may be referred to other causes than that of congenital narrowness of the aorta and its branches.

The remarks on the treatment of the various organic lesions to which the heart is liable, occupy nearly one half of the volume, and are replete with philosophical reasoning, but they do not very materially advance the previously ascertained means of palliating organic disease of the heart. The author doubts the possibility of curing hypertrophy of the ventricles, and describes a class of cases of "mock hypertrophy," which he considers to be very numerous. In detail, his arguments are doubtless true; we can remove the hypertrophic condition of the organ, but it is doubtful whether the effects of those agencies which have produced the hypertrophy can ever be entirely counteracted: still, we apprehend that not only in cases where the organ has become hypertrophied and dilated in consequence of habits of excessive exertion, intemperance, &c., but also in those where similar lesions depend upon confirmed valvular disease, treatment will often have great effect in restoring the size and force of the organ to a healthier standard.

In common with many other practitioners, the author has found most beneficial effects to arise from the application of half a dozen leeches to the chest, in the very severe paroxysms to which the subjects of advanced cardiac disease are liable. He considers that they succeed oftener than either venesection or cupping; but he very justly explains the danger of the

fatal error of inducing a state of anæmia in these cases.

The following passage enforces a very important and practical lesson in the treatment of cardiac diseases:—

"Cases of the following kind are not unfamiliar to me. A man has hypertrophy of the heart in a moderate degree, with some small amount of valvular injury, or with none at all. Hitherto he has been tolerably free from painful palpitation and dyspnoea, except under excitement in extraordinary exertion. But suddenly he is found gasping and struggling for breath, and expecting instant dissolution. What is this; and what is to be done? Truly one might be excused for thinking of angina pectoris, or some spasm of the heart, and flying to ammonia and ether and opium for relief. But, putting my ear upon the chest, I have found a small crepitation diffused through the half of one lung, or in the half of one lung I have been unable to catch any audible murmur whatever either natural or morbid. A single cupping upon the chest, just opposite the portion of lung that labours, has swept away the crepitation, or has removed the dullness, and brought back the respiratory murmur; and the patient has been restored in a day or two to his ordinary state of comfort. Here in one instance there has been sudden and extensive effusion into the extreme bronchial ramifications or vesicular structure of the lung, and in another there has been sudden and extensive congestion" (p. 320-1).

Three very interesting cases are given by Dr. Latham in illustration of angina pectoris. In the first of these, death occurred in a fortnight; in the second, in ten days; and in the third, in less than three hours from the first commencement. The author considers that the cases in question illustrate his opinion that angina pectoris depends upon "spasm of the heart,"—a doctrine with which, as pathologists, we are by no means inclined to coincide. We believe that if this peculiar train of symptoms can be traced back to any one single cause, that cause will be found to exist in the weakened condition of the cardiac parietes, which appears to be so constant an accompaniment of the disease. Spasm of the heart, as existing independently of any definite structural change, is a condition, the existence of which it is extremely difficult to determine with positive certainty; but over-distension, with failure of muscular contractile power of one or more of the

cardiac cavities, is a more intelligible state, and is the condition which we believe exists in all fatal cases of true angina. If the author's view be not absolutely correct, his plan of essaying to relieve the pain of angina by administering drachm doses of laudanum three times, at an interval of a quarter of an hour between each dose, can scarcely be admitted to be based on correct principles. The author himself admits that "there are no cases upon record in which death followed the first accessions of angina pectoris so rapidly as in those three which he has related." This question should be well considered, as it is one of no ordinary moment. Upon the whole, we have always been averse to the free use of sedatives in advanced cases of organic cardiac disease, as they appear only to mask and smother the evil which they fail to mitigate.

We believe that we have perused Dr. Latham's work under a disadvantage, in being compelled to read it in a briefer period than that which we should have willingly allowed ourselves for its study; for it is one of those few works which really do require to be studied, page by page, and chapter by chapter, by those who have abundant time to analyse, one by one, the arguments of the works which they are engaged in investigating. We strongly recommend a slow and thoughtful perusal of this volume to our readers. The younger inquirers will not fail to be delighted with, and enlightened by, the philosophical arguments and the classical style; and the more experienced reader, although he may be inclined to dispute a portion of the opinions, will not fail to rise from its perusal with a conviction that he has not bestowed his time in wading through the suspicious doctrines of a commonplace reasoner.

Practical Observations and Suggestions in Medicine, Second Series. By MARSHALL HALL, M.D. F.R.S. &c. 8vo. pp. 360. London: Churchill, 1846.

WE have rarely met with a scientific work to which the title of "Olla Podrida," "Stray Leaves," "Sweepings of the Author's Study," "Medical Hints," "Fugitive Thoughts," "Rough

Sketches," or "Odds and Ends," could be more justly applied, as indicative of the miscellaneous and sketchy character of its contents, than this second Series of Dr. Hall's "Observations and Suggestions." The volume consists of extracts from lectures delivered at various periods, brief sketches of physiological principles, essays of various lengths and of different degrees of completeness, suggestions of unproved opinions which have occurred to the author, and of hitherto neglected courses of inquiry which ought to be pursued by the reader, abstracts from the author's speeches at medical societies, extracts from his papers in the Philosophical Transactions, and a great variety of other matters, the collection of which into a single volume altogether gives the work rather the appearance of a medical common-place book than of a collection of finished essays published by an experienced author. Still this volume contains much that is above the common order of medical writing, and much also that will interest and instruct the majority of readers, and furnish them with materials for reflection and investigation. As the various chapters of the book have little or no connexion with each other, a few scattered extracts from its pages will very fairly represent its character. The following is a good specimen of the author's terse and aphoristic style, but it is also a specimen of very faulty medical writing.

"A short time ago I carefully examined a case of hemiplegia. I stated it as my opinion that the patient would die not many days afterwards. I visited another case, the hemiplegia was as decided; yet I prognosticated that the patient would survive.

"In both these cases, the face, the tongue, the arm, and the leg, were completely hemiplegic. This paralysis is an affection of the cerebral system. But in the first case, the spinal system was involved in the attack, and, in spite of even proper remedy, the symptoms of spinal affection continued unremoved: there were dysphagia, dyspnoea. Some defective action about the larynx and pharynx. In the second, the spinal system was spared. Is it not interesting, at least, and something of a rather higher order than mere empiricism, to observe and trace these physiological phenomena?

"If the cause" [lesion?] "be limited to the cerebral system, the patient survives. If, with the cerebral, the spinal system be

involved, and if this spinal affection does not speedily subside under the influence of the proper remedies, the prognosis is unfavourable, if not fatal. In the former case, the disease is limited to the cerebrum; in the latter, it extends, either in itself or in its influence, to the spinal marrow. I have traced some of these cases with the deepest interest, imparted by their physiological relations, and by the feeling that I was enabled to accomplish what a mere empiric could never pretend to do—that is, to understand my patients' case."—(p. 7-8.)

The above statements are so reasonable, and are delivered with so much confidence, that the reader would be apt, at the first glance, to overlook the fact that the propositions which are stated in the earlier sentences of the quotation are left entirely without the proof which is necessary to give them convincing force. Did the issue of those cases prove the correctness of the author's prognosis? If it did not, the physiological test was of course useless:—if it did, the author should have considered it as essential to the establishment of his observation to state the fact. This loose style is sadly prevalent in medical works;—the surgeon and the physician appear to be the only class of scientific writers who continually violate the rule that every proposition which is confidently laid down should be accompanied by its proof.

The following quotation represents a style of theorising, and a manner of stating an altogether unproved hypothesis, which should scarcely have been exhibited in the work of an old teacher and an experimental philosopher.

"Little or nothing is as yet known of the immediate cause of sleep. I am of opinion, and I shall have to repeat the observation, that a state of contraction of certain muscles of the neck takes place, analogous to that of the orbicularis palpebræ, as sleep comes on; that certain veins are compressed; that congestion of the brain takes place; and, lastly, as a consequence of this last, sleep. A similar event takes place, for a moment or two, in some cases, inducing that short oblivion, or epilepsy, of which Heberden gives so just a picture."—(p. 26.)

A little further on the author continues his argument as follows:—

"Certain muscles may be muscles principally of excito-motor action; and when volition is withdrawn from the other muscles of the neck, they may contract like the orbicularis, and gently compress the jugular

veins, and so induce congestion of the brain and sleep,—and, as we so often observe, attacks of apoplexy and of epilepsy. But I repeat that this is mere conjecture—to be accepted for what it is worth, and a mere foil, if unfounded, to excite others to efforts more fortunate.”—(p. 35.)

The italics in the above sentence are ours. The time has now passed away in which unsupported hypotheses, or rather hap-hazard guesses, on matters of science, will have any other effect upon readers than that of diminishing their confidence in the practical character of the author's studies. Dr. Hall's own earlier writings have tended not a little to bring about this beneficial change, and he ought to be the last person who should attempt to arrive at physiological discoveries without due investigation.

The following remarks are excellent.

“No remedy ever performs the same wonderful cures in the hands of his successors, as in those of its original propounder. The sanguine physician, I am persuaded, cures more patients than the cold and phlegmatic, always auguring evil, and killing by the gravity of his demeanour.”

And again—

“The physician should inspire *hope*. There is no more real cordial. He is not to state a falsehood—he is not to do evil that good may come; but also he is not to be the continual augurer of misfortune. He may cheer, as Celsus beautifully and classically expresses it, ‘*probabili sermone*.’ He should know that looks and word cure and kill, and act accordingly. One of the most successful practitioners of the present day is possessed of the most perfect gaiety of mind; and I think I know another, whose too serious and lugubrious gravity mars what would be otherwise his just degree of success.”—(p. 41.)

The ensuing passages contain an outline of what the author terms an “idea of the circulation.”

“I am of opinion that the *true* capillaries constitute a totally distinct order of vessels, of the very utmost importance in the animal economy—nay, the end, the *object*, of the whole circulatory apparatus. It may strike the members of this society with surprise, if I assert that these vessels have not hitherto been described. Yet such I believe to be the fact.

“The veins, the heart, and the arteries, are, in my view, but mere machinery, to conduct the blood from, and to, the true

capillary vessels. In these vessels, a function is performed which I can only compare to the *flooding* or *irrigation* of a meadow, by which the soil and its roots are fertilized. The veins, heart, and arteries, are, as I have said, the *machinery*; the true capillary vessels, with the adjacent tissue, present the surface—the soil—to be irrigated * * * Every thing, in a word, induces the belief that these capillary vessels are, in fact, not vessels, not tubes, but mere canals or channels formed amidst the tissues, like gutters in a chalky cliff.”—(p. 75.)

The above statements have an air of originality, but they are assuredly not by any means new. The doctrine of the simply mechanical offices of the heart and great blood vessels is of course perfectly commonplace; and the theory that the capillaries are destitute of walls has long afforded so convenient a mode of explaining many of the puzzling intricacies of secretion and of effusion, of suppuration, transudation, intestinal hæmorrhage, and certain phenomena in the process of absorption, that it has been by no means overlooked by the speculative class of pathologists.

The author very strongly advocates the use of the spring bed in hospitals and elsewhere, as it is far less expensive than the hydrostatic bed of Dr. Arnott, and far less liable to decay and to suffer from accident. He also recommends the mosquito net as the simplest and most efficacious defence from the night cold of this climate. The mode of employing this apparatus is as follows:—

“If the bed be what is termed ‘a French bed,’ all that is required is to pass a cord tightly from post to post, and then diagonally. But as a duplicate of this ‘net,’ with an intervening space of about two inches, adds extremely to its efficacy, a very large tuft of worsted should be attached over the former net, at the top of each post, and over this the second fold of net is to be thrown. These tufts are to be so placed and fixed as to project above and laterally.”—(p. 93.)

This apparatus is especially recommended for “certain classes of patients, the tetanic, the pulmonic, the dysenteric, &c.”

The observations on puerperal diseases are more extended than any of the others contained in this work, but we do not consider that the author has been sufficiently careful in bringing

his information upon these important subjects up to the standard of the knowledge of the present day. He still argues that, in puerperal peritonitis, nothing can be trusted to, to save the patient, but the most ample blood-letting; and that "nothing should preclude the use of this remedy but the actual existence of the state of sinking;" he recommends that in these cases "a constant catharsis should be kept up,—indeed until the disease is completely subdued; and advocates the induction of pytalism,—a course of treatment which a large proportion of London obstetric practitioners consider that they have been absolutely compelled to abandon, on account of its utter inappropriateness to this dreadful malady; which they no longer regard as a form of pure local inflammation, but as a consequence of a vitiated condition of the fluids attended with a fearful impairment of the reparative energies of the system." The author objects to the use of opium in these cases. He argues that, upon the explanation given by Dr. Kellie, a state of exhaustion, induced by loss of blood generally from the system, does not protect the brain from a state of vascular fulness,— "It is," he adds, "in this very case that cupping of the occiput and nucha is so strongly to be recommended. The brain, in some cases of exhaustion, is relieved by the topical abstraction of a very small quantity of blood; and this relief is not only advanced by a less expenditure of blood, but is more permanent than similar relief effected by general blood letting." This appears to us to be a by no means happy application of physiology to medicine. The experiments of Dr. Kellie have not been confirmed by subsequent trials in the hands of others; and, although we believe that the moderate practice recommended by Dr. Hall is justifiable on physiological grounds, we are confident that the views of Dr. Kellie are not those upon which it should be grounded.

In the above series of brief selections from Dr. Hall's volume, we may have appeared to dwell rather too strongly upon its faults, and to display too few of its merits, but we can never refrain from expressing regret in observing a loose and inaccurate style of

reasoning, displaying itself in the works of a writer, whose fame was originally based upon his acuteness and precision as an original experimenter and observer; and we do not consider it necessary to conceal the want of caution which places one who, a few years since, stood in the foremost rank of the aspirants of the then "new school," in the position of an author who is unacquainted with, or neglectful of, the most recent discoveries in his own favourite sciences. Still, this volume, with all its defects, contains much that is interesting, and not a little that is valuable, and it upon the whole displays, in a very forcible light, the indispensable value of a just knowledge of physiology in the diagnosis and treatment of disease; a principle which Dr. Hall has advocated and illustrated throughout a large portion of his writings with remarkable ability, and with most praiseworthy zeal.

A Treatise on the Inhalation of the Vapour of Ether, &c. By JAMES ROBINSON, Surgeon-Dentist to the Metropolitan Hospital. 8vo. pp. 63. London: Webster and Co. 1847.

THE pamphlet before us contains a summary of the facts connected with the use of ether in surgical operations, in the shape of correspondence, extracts from the medical journals, and the results of the author's own practice. Mr. Robinson was the first to employ the ethereal vapour in this country; and to show that in most cases, and under proper precautions, it might be resorted to with perfect safety to the individual. Our pages have recorded the fact, that the author has visited most of the metropolitan hospitals, and employed his apparatus successfully in many severe surgical operations. His pamphlet, while it will present no novelty to those who have read the weekly medical journals, may be regarded as a useful compendium of the facts hitherto ascertained respecting the employment of this singular agent for the alleviation of pain.

Proceedings of Societies.

MEDICAL SOCIETY OF LONDON.

Monday, February 3, 1867.

MR. DENDY, PRESIDENT.

Evils of Injections in Uterine Disease.

Dr. OLDHAM read the following paper:—In July, 1836, I assisted to inject the uterus of a young female in Guy's Hospital, who was supposed to be affected with uterine leucorrhœa. A small quantity of warm water was ordered to be thrown into the cavity of the uterus, which was accomplished in the following manner:—A gum-elastic catheter, perforated at the extremity, was introduced into the channel of the cervix, as high as the os internum, and about a drachm or so of simple tepid water was injected into the cavity by a syringe, which fitted into the extremity of the tube. Very severe pain in the cavity of the pelvis, felt both centrally and towards the pubes, immediately followed, which required hot fomentations and opiates to allay it. When these symptoms abated, the uterine cavity was again injected in the same way, when much more severe inflammatory symptoms succeeded. Acute pain in the hypogastric region, with active febrile symptoms, were the indications of peritonitis, which yielded to bleeding from the arm, and by leeches, with other antiphlogistic means.

CASE 2.—I was hastily summoned to see a lady in my neighbourhood, Sept. 5th, 1846, at eleven o'clock at night, whom I found writhing about on the bed, evidently suffering most acutely. On inquiry, I found, that she was in the act of using a vaginal injection, composed of a solution of nitrate of silver, with one of Clarke's ætalic syringes, when suddenly, as she was injecting the fluid, she was seized with the intense pain in which I found her. The pain was felt deep within the pelvis, and was referred by her to the lower part of the rectum and the sacrum. She became faint, began to vomit, and sweated profusely. Without loss of time I gave her three grains of calomel, with a drachm of laudanum, and fomented the lower part of the abdomen and vulva with very hot poppy decoction. In three hours time, the pain considerably abated, and she became tranquil. The fomentations were sedulously applied during the greater part of the night, and some saline medicine, with antimony and calomel, were exhibited. The following morning she was much relieved; but there was deep-seated tenderness in the region of the pelvis, with some fever. She passed water freely, and the bowels had been well relieved. She was now transferred to the

care of her usual medical attendant, who lived several miles from her residence, under whose care she recovered.

When first I saw this lady, and heard the circumstances under which she was attacked, I felt persuaded that the fluid which was injected by the vagina had traversed the uterus and Fallopian tubes, and had probably reached the recto-vaginal pouch. I learned that she had been the subject of uterine disease for seven years, and had consulted several obstetric physicians, and the plan of treatment which had been adopted for some time, and under which she had obtained marked relief, was to inject a solution of nitrate of silver, in the proportion of two grains to the ounce, every night before going to bed; and occasionally, if there had been much pain in the region of the ribs, she injected a solution of opium. One of the effects of the continuance of this plan was, that the thick epithelial lining of the vagina was loosened and cast off, sometimes in detached portions, and at others in the most perfect form in which it is here seen, forming, in fact, an accurate copy of the mucous membrane of the vagina, dyed of a greyish-blue colour.

On examining the uterus per vaginam, I found that the organ itself was much enlarged; it was heavy and low down, and by pressing over the pubes the fundus could be easily touched, and the womb caught and held by the co-operation of the two hands. There was a good deal of tenderness in the posterior wall, which could easily be touched by the examining finger. The cervix was tumid and soft. The anterior lip was prolonged considerably beyond the back one, and it had a rough granular feel, which I knew depended on the filling out of the large mucous crypts of the cervix. The os uteri was sufficiently open to allow of the tip of the index finger to enter it.

For two months past this lady has been more immediately under my own care. The size of the womb, and the enlarged anterior lip, have been greatly reduced by scarification, leeches, blisters to the sacrum, warm hip-baths, and the frequent and direct use of the solid nitrate of silver. When seen by speculum, the inner surface of the anterior lip was found very much injected, and Naboth's glands distended with mucus, of a pearly lustre, and appearing like so many Graafian vesicles set in the soft, raised, vascular tissue of the cervix.

My object in thus briefly relating these two cases is, not so much to invite a discussion on the diseases themselves as upon the particular remedy which caused similar and dangerous symptoms in both. They fairly open the question of the propriety of using fluid injections into the cavity of the unimpregnated womb; and the second case

implies a restriction on the employment of even vaginal injections. The source of danger is not, I believe, on account of any hazard peculiar to the use of lotions on the mucous membrane of the womb, but from the ready and immediate transit of any fluid through the Fallopian tubes into the recto-vaginal pouch. The facility with which this is effected may readily be tested by passing the tube of a common injecting syringe into the cavity of the cervix of a uterus recently removed from the body, as high as the os internum, and then, with very moderate force, injecting a small quantity of water, when the tubes will be seen to fill out, and the fluid escape from the fimbriated extremity. The result of this, so far as the experience of these two cases goes, is immediately to cause severe pain in the neighbourhood of the uterus, then inflammation of the serous membrane in the pelvic region, and the probable production of false membranes in and about the uterus and its appendages, if the patient fortunately escape a worse result. If this view be correct, it goes far, in my mind, to prohibit the use of fluid injections into the cavity of the womb; and, indeed, I have never ventured, in any of the diseases which have come before me, voluntarily to adopt this expedient. It may, however, be alleged, that the experience of Continental writers, particularly M. Lisfranc, in whose hands the practice has been useful, and harmless of any such grave results, is a sufficient security against the apprehension which I entertain. It is always difficult to answer an objection of this kind, unless backed by a large experience; but two suggestions occur to me: 1st, it is possible, by very great care, to inject only a few drops of fluid, so small in quantity, and with such moderate force, as that none of it should reach the infundibulum; and 2ndly, I believe that if the extremity of the injecting-tube were only just inserted into the os externum, that, in many cases, the fluid would be injected against the walls of the canal of the cervix, without being directed through the contracted aperture of the os internum, and thus none of it in the uterine cavity. It is only under these suppositions that I can understand the harmless nature of this mode of injection.

The question may, then, be asked—Are we to be debarred from applying local means for the cure of diseases of the mucous membrane of the womb? In answer to this, I would say, that there are comparatively few diseases which require this aid, and that the so-called uterine leucorrhœa is amongst these rare affections. If, however, a clear case of disease of the lining membrane of the womb is well ascertained—say, for instance, mucous ulceration of this part, or a small patch of fungoid disease—I should prefer to carry the

solid nitrate of silver, concealed in a proper instrument for the purpose, just as it is in cases of stricture of the male urethra, into the cavity of the womb; or else to inject a small quantity of an ointment, which might, I apprehend, be effected without the danger which attends fluid injections. On two occasions I have carried the nitrate of silver, solid, into the cavity of the uterus, without exciting any undue inflammation; but I have not adopted the latter suggestion of injecting an ointment, although I think it applicable as a therapeutic means.

The second case exemplifies a possible source of danger from injecting the vagina, although undoubtedly it is remote and rare. Injections may very generally be used by any of the various instruments which are adapted for the purpose, without any risk whatever. The principal objection to them is more from the imperfect way in which they are applied, and practically, therefore, to their inefficiency, rather to any fear of their doing harm. The condition, however, of the uterus, in the case I have mentioned, which is by no means unusual, ought to suggest great caution in their employment. A womb which has been the subject of engorgement for any length of time becomes large, hard, and heavy; it sinks down by its own weight, and generally falls back a little, so that the fundus lies towards the promontory of the sacrum, and the cervix is directed forward, the os uteri being more centrally placed. The weight of the womb diminishes its mobility, it becomes comparatively fixed, and it frequently happens that false membranes form about it, still further fettering its movement. The result of this chronic congestion is seen also in the cervix, which becomes large and massive; the anterior lip is prolonged, sometimes considerably beyond the posterior one; both lips become more rigid, and the os uteri is rendered open and large. It will be sufficiently obvious, that the pipe of one of the bent metallic syringes would be very likely to be placed, under these circumstances, just against the inner edge of the front lip of the womb, and thus the stream of fluid be thrown into the gaping orifice of the cervix, and so through the upper part of the sexual passages. No doubt such an accident would be, and really is, of very rare occurrence, and the more rare, because in these cases generally the glands of the cervix pour out a large quantity of their peculiarly thick mucus, which effectually blocks up the passage. But for some years past, I have avoided the employment of fluid vaginal injections in cases of this description, first, because by means of the speculum we have better and more direct remedies at hand, and then, because of the very danger which happened in the case I have related.

Mr. STEDMAN inquired whether Dr. Oldham had any experience of the use of the oxide of iron in these cases; and also of the practice of dilating the os uteri for the relief of dysmenorrhœa, and for the cure of sterility, which he believed was now being extensively practised by certain practitioners at the west end of town.

Dr. OLDHAM had used the oxide of iron, but without any great success. He had found the sesquichloride of iron and olibanum more useful. In regard to the second question, in cases where, on examination, the sexual organs were found to be fully developed, but the cervix and os uteri contracted, he had practised dilatation with advantage, both in the cure of dysmenorrhœa and sterility; but when the sexual organs were small and imperfectly developed, he had found no advantage from it. He related the case of a female in whom the former state of these organs existed, who had been married two years without having borne any children, and who had in consequence been very badly used by her husband, in whom dilatation had been practised with complete success, she falling pregnant very shortly afterwards.

The President inquired whether Dr. Oldham considered "dilatation" to do good in these cases, by stimulating the organs to a proper performance of their functions by an "excito-motory" action, or by setting the secretion at liberty mechanically?

Dr. OLDHAM thought the contracted state of the os uteri, &c. interfered with the secretion of the menses, by impairing the functions of the organ, and that these were restored to a healthy action by its dilatation.

Mr. LEE, in reply to a question from Dr. Oldham, said that he had seen advantage from Dr. Rigby's practice of injecting the "blue ointment" (in a liquid form) into the womb, for the relief of fibrous tumors of that organ. He had known slight symptoms of peritonitis follow this practice, but doubted whether the fluid ever passed up the Fallopian tubes.

Dr. OLDHAM thought that these symptoms might arise occasionally from air being forced along these tubes into the peritoneal cavity during the use of injections.

Dr. BENNETT thought that the application of nitrate of silver, in its solid form, to the vagina, in the cases alluded to, would be calculated occasionally to produce very great irritation, and was objectionable on that account.

Dr. OLDHAM had never used it in acute cases.

The President said that he was in the frequent habit of using the nitrate of silver, in its solid form, in the acute conjunctivitis of children, and had never seen any harm arise

from it. According to the freedom with which it was applied, it might be made either a powerfully or moderately stimulating application. He thought it would be a perfectly safe remedy in the cases alluded to.

Dr. OLDHAM spoke of the great advantage arising from the use of the "potassa fusa" as a caustic in certain diseases of the uterus, and asked the experience of Mr. Lee on this subject.

Mr. LEE said, that in chronic inflammation, with enlargement and thickening of the cervix uteri, he had found this application very useful. In such cases, the effect seemed to be, that when the slough produced by this caustic was thrown off, a softening of the surrounding texture took place, very favourable to the case. Great care was, however, necessary in the application of this caustic, as, if any of it got upon the mucous membrane of the vagina, it produced immense irritation. He was in the habit of using the caustic protected by a stick of wax, and of passing up the vagina a piece of wool or cotton, well oiled, previous to its use, and of allowing a portion of this to remain at the upper part of the passage, near the cervix uteri, so as to receive any drop that might fall.

Monday, Feb. 15, 1847.

Treatment of Abscess beneath the Pectoral Muscle.

Mr. HILTON had lately met with some cases of deep-seated abscess under the pectoral muscles, resulting from local injury to the thumb, which he had opened in the following manner, to prevent the tedious separation process which followed the evacuation of an abscess, by making an opening from the above downwards. Having examined the axilla, to see that there was no abnormal distribution of the artery, he made an incision about half an inch deep, and then pushed up a grooved director for two or three inches, until it reached the walls of the abscess at its lower part; by exerting moderate pressure, the point of the instrument was thrust through them, and the matter, at its most depending point, readily and completely evacuated. He had tried the plan, in several cases, with the best success, the recovery being in each case rapid and complete.

Mr. HIND should prefer, even at the risk of a little hæmorrhage, to use a cutting instrument in the operation; though he thought the best plan would be to cut down upon the pectoral muscle at the lowest point of the abscess, and thus evacuate its contents.

Mr. HILTON had seen the bistoury used in the manner which he had recommended that the director should be employed, and the result was, an alarming, indeed, almost a fatal, hæmorrhage.

Effects of Ether inhaled to prevent pain in Surgical Operations.

Mr. HIRD briefly alluded to the case of a young woman who, having inhaled ether for the purpose of submitting to the extraction of a tooth, was seized with syncope, in which she remained for a length of time, and for ten days afterwards suffered from its effects: this patient laboured under disease of the heart. In another case a gentleman was submitted to the action of the ether with the same view as in the former case. Soon after, his face became flushed, his lips purple, his temporal arteries enlarged, and there was altogether so much excitement, that his attendant was alarmed. The tooth, however, was extracted, but convulsions supervened, attended by slight stertorous breathing, and other symptoms of an alarming character. He gradually recovered, but suffered from the effects of the agent for some time after.

Dr. WALLER related the case of a man in whom the ether produced such violent coughing, spitting, contracted pupil, rapid pulse, and incipient convulsions, that it was necessary to desist with the inhalation.

Dr. ROBERTS related a case of asthma, in which the patient, having consulted some advertising practitioner, was directed to inhale a mixture containing belladonna, Hoffmann's anodyne, and conium, in water at 130°. He pursued this plan for several days, the cough ceased, but the man was prostrated by the remedy; and when he (Dr. Roberts) was called in, he found him in such a case of collapse, that he died in a few hours.

Mr. ALDER FISHER related a case in which this kind of inhalation had produced sudden death in a patient affected with chronic phthisis.

Dr. T. THOMPSON regarded it as a gratifying circumstance, that no death had as yet resulted from the inhalation of ether, though it must have been used already in thousands of instances. It was a great boon to humanity. He regarded the temporary ill effects resulting, in some cases, from its use, to the patient having inhaled his own breath again, and the lungs thereby becoming charged with carbonic acid. Of all stimulants he regarded ether as the safest, its effects sooner going off than that of other stimulants.

WESTMINSTER MEDICAL SOCIETY.

Saturday, Feb. 13, 1847.

Mr. HANCOCK, President.

Dr. SNOW read some

Observations on the Vapour of Ether, and its Application to Prevent Pain in Surgical Operations.

He said, that as the vapour occupied space

when mixed with the air, it might be supposed that its action was partly due to its excluding a great deal of the oxygen of the air, and causing a kind of asphyxia; such, however, was not the case, for he found that supplying the displaced oxygen did not counteract the effects of the vapour. Mixed with oxygen gas, it affected mice as powerfully as when mixed with the air, as he had found in several experiments. Asphyxia was a very different state from that produced by ether. Although an animal in a state of asphyxia from breathing air deficient in oxygen, was insensible to pain, as he had ascertained, yet the insensibility was of but short duration, ending soon either in return to sensibility, or in death; the production of asphyxia in this way was attended with suffering, and with great danger to life, whilst just the reverse was true of the effects of ether. The latter allowed the blood to be changed from venous to arterial in the lungs, but probably interfered with the changes which take place in the capillaries of the system. He had ascertained that a little vapour of ether mixed with air would prevent the oxidation of phosphorus placed in it, and considered that it had a similar effect over the oxygen in the blood, and reduced to a minimum the oxidation of nervous and other tissues. In giving ether for surgical operations, he considered that the insensibility should be rapidly produced, and that previous excitement ought to be either imperceptible or very transitory. In addition to the state of the eye, the character of the respiration afforded a good criterion of the patient's state; when completely insensible, the respiration was deep, slow, and automatic, but should never be stertorous—he had never seen it so. In full four-fifths of the cases in which he had administered the ether, there was not the least flinch or groan during the cutting by the surgeon's knife. He considered cases of this kind the only truly successful ones, and believed that with proper care nearly every case might be of this nature. When the patient exhibited signs of pain, although he might have no knowledge of it afterwards, the ether was only partially successful. A large number of the so-called successful cases related were of this nature. Cries and struggles could not depend on the reflex function; the patient felt pain; he had sensation, with little or no consciousness, and, consequently, no memory of pain, as memory was the continuance or repetition of consciousness or of knowledge, and not of simple sensation. With the apparatus on the table, the patient could breathe a good volume of vapour and air; he usually put it in water at about 70°, when the air and vapour would be equal in quantity, but he allowed the patient to begin by breathing merely air, and turned on the

etherized air by degrees by means of a two-way tap, to prevent the irritation its sudden admission occasioned in some persons; and when the state of insensibility was fully formed, and an operation commenced, he turned the tap to dilute the vapour more or less, and thus to keep up the requisite state of insensibility, without increasing the effects of the ether beyond the necessary degree*.

Dr. MURPHY had used the ether in a case of turning. The woman was against its application, and after her consent to its use was obtained, she quickly lost consciousness,

* During the last three weeks there have been eight surgical operations performed at St. George's Hospital, in all of which the vapour of ether has been administered with great success by Dr. Snow by means of his apparatus described in our number of the 29th ult. On Jan. 29th, Mr. Cesar Hawkins removed a sequestrum from the tibia of a boy; Mr. Cutler performed amputation of the thigh in a man reduced to a state of extreme debility by two attacks of erysipelas; and Mr. Tatum removed a fatty tumor from the shoulder of a negro. The operations were commenced within two minutes after the inhaling began, and in neither case was there any symptom of pain, nor did the patients remember anything of the operations. The process was left off and commenced again for a short time during the operations. The negro who was in good general health struggled a little, and the veins of his forehead and arms were distended just before he became insensible. The temperature of the water in which the apparatus was placed was 65° in the first, 70° in the second, and 75° in the third case, and consequently the quantity of vapour 44, 58, and 55 per cent. respectively. On Feb. 4th there were three operations: one for diseased bone, by Mr. Cesar Hawkins; another for fistula in ano, by Mr. Cutler; and a third, the removal of a scirrhous mammary gland, by Mr. Tatum. In the first and the last operations there were no signs of pain; in the second, however, the man groaned, and he said afterwards that he felt it a little, but nothing to signify; it seemed that this operation was begun rather too soon. On Feb. 11th, Mr. Cutler performed lithotomy on a boy between four and five years of age. The staff was introduced before the inhaling began, and the child cried his utmost, but during the operation itself the contrast was most striking, for he lay as if sound asleep, and revived immediately the mouth-piece was removed at the end of the operation, which was of short duration. In this case the inhaler was placed in water at 70°, and the air from it was consequently mixed with an equal volume of ether vapour, but the child only inhaled it for about two minutes at this strength. For as soon as insensibility was complete, and the operation was commenced, the external air was admitted by means of a top opening two ways to mix in the tube with that from the apparatus, so as to dilute it till it contained about 30 per cent. of vapour, and in this way he inhaled till the calculus, which was bigger than a pigeon's egg, was extracted. On the same day, Mr. H. C. Johnson removed a female breast for malignant disease. The inhalation in this case was interfered with by a bronchitis under which the patient laboured: the vapour caused a good deal of coughing, and the patient seeming to be threatened with suffocation, it was discontinued, and the operation began, during which she both struggled and called out. However, the vapour did as much good in this as in a great number of the cases which are related as successful, for the patient declared that she had felt no pain.—*REPORTER GAZETTE.*

and was sent to sleep. She had been placed in a proper position for the operation previous to the inhalation. On passing the hand into the vagina, the woman was thrown into a momentary state of tetanic spasm. This was succeeded by a half-drunken, stupid state. He believed, from careful observation, that the uterus was not under the influence of the ether. Delivery was effected in five minutes. The child was "asphyxiated," but soon recovered. Altogether, he believed the woman felt less pain than if the ether had not been used.

Saturday, February 20, 1847.

Dr. SAYER, President.

Inhalation of Ether.

Dr. AYRES made some remarks on the mode in which ether, when inhaled, produced its effects upon the system. He believed that, like other intoxicating agents, its effects, when inhaled, were identical with those exhibited when it was taken by the stomach, except that the effects were more decidedly and rapidly portrayed. In this way it might act in the manner described by Dr. Snow. He had tried to use the vapour of alcohol for the same purpose, but it produced irritation of the larynx and headache only.

Mr. BROOKS exhibited an instrument for the inhalation of the vapour of ether.

Mr. HANCOCK related some cases in which the vapour of ether had been inhaled, with the effect, in one instance, of producing convulsions, and in another, of producing irritation of the throat, which remained until the patient, who was previously in a very low condition, died. After death, the mucous membrane of the larynx and trachea was found congested.

Mr. HALE THOMSON regarded the ether as a most valuable boon to humanity. In his own practice he had seen no ill results from it, and thought that we ought not to blame the agent, when the failures might depend upon the manner in which it was administered.

Mr. NORMAN had seen the ether exhibited to an infant eight months old, who had a naevus removed, successfully, whilst under its influence. It was administered by sprinkling a little ether on a handkerchief, and holding it before the mouth and nose of the little patient.

Mr. CLARKE had seen Dr. Snow's instrument used on many occasions: it possessed the great advantage over all others which he had seen employed, of producing insensibility more rapidly and without the previous excitement which often accompanied the use of other instruments.

Dr. CHOWN spoke at some length on the subject, and cautioned the members respecting its use. Our knowledge regarding it

was at present but limited, and great care was necessary in our future investigations to discover its real value.

Dr. SNOW said, that since he read his paper at the previous meeting, he had completed some experiments, by which he had ascertained that the vapour of ether was given out again from the lungs unchanged, and that the amount of carbonic acid gas produced during the inhalation of ether was less than at other times: these circumstances he considered confirmed the explanation of the *modus operandi* of ether which he had previously given.

The discussion was adjourned.

PATHOLOGICAL SOCIETY OF LONDON.

Monday, Feb. 15, 1847.

Dr. WILLIAMS in the Chair.

Dr. OGIER WARD exhibited a specimen of *Necrosis of the Shaft of the Humerus, and of the Head of the Femur.*

The patient, a girl aged 10, came under the care of Dr. Ward in August 1844, complaining of a tingling pain down the right arm to the hand, and of the right hip, down the back of the leg to the foot. This was followed, in six days, by a high state of fever and phlegmonous erysipelas of the right shoulder and arm. A large abscess formed in two days, and which was punctured about the middle of the arm, a large quantity of healthy and sanious pus escaping. A few days after the opening of the abscess, a red spot appeared over the head of the humerus, and which ulcerated in about a fortnight, and through the ulcerated opening, the head of the bone, deprived of its epiphysis, protruded to the extent of two inches, the other wound having healed in the interim. She soon afterwards entered St. Bartholomew's Hospital, where she remained fifteen weeks, at the end of which time nearly the whole length of the humerus was extracted, and the wound healed rapidly. After her return, there appeared to be ankylosis of the joint; and shortly afterwards she was thrown down, the new bone becoming bent at its upper third, in which state it still remains. At this time, the head and upper part of the thigh-bone were affected with periostitis, followed by the formation of several abscesses about the great trochanter, and the discharge, at intervals, of small pieces of bone. The disease of the thigh-bone continued for more than a year and a half, and the healing of the sinuses was immediately preceded by the coming away of a large portion of the head of the bone. The patient now enjoys good health, the right arm being shorter by two inches than the left; there is great mobility

of the scapula, and when this is fixed there is motion of the arm to the extent of 20°. The right leg is an inch and a half shorter than the left; and in consequence of a false joint between the femur and ileum, she possesses tolerably free movement.

Mr. OBRE exhibited the *Kidneys of an Infant presenting Carcinomatous Degeneration.*

The subject of this case was the only child of young parents, born apparently healthy, and continued so until its seventh month, when scrotal hernia presented on the right side. The following month a hard abdominal swelling, the size of an egg, was felt in the anterior part of the left lumbar region, which rapidly increased, in a few days attaining the size of a small melon. No definite opinion being given of its character, he was visited by Sir James Clark, who also was unable to decide either on its structure or from what organ it had its origin, all the functions and secretions being apparently undisturbed. The rapidity of its growth suggested malignant disease; but that was the only symptom which indicated such a result. A fulness was shortly observed in the right hypochondriac, caused by a similar tumor under the hepatic region. In the course of three or four months the swellings had gradually increased until they attained a most enormous size, filling the abdomen, pressing back into the lumbar regions, and so distending the abdominal parietes that they required the application of oil to promote their relaxation from the enormous pressure within; the tumors coalesced till they presented no definite boundaries; the distension was too great to prevent the child being placed in any position except lying on its face. It lingered in this state until its thirteenth month, when it died exhausted, emaciated to a miserable skeleton, presenting a sad object with this enormous abdomen. Occasional constipation and vomiting were the only distressing symptoms. The abdomen was the only cavity examined after death: its contents were pale and attenuated; the intestines displaced by two large globular swellings, filling either side of this cavity, which proved to be the kidneys converted into cancerous structure; the right weighing two pounds twelve ounces; the left, two pounds four ounces: conjointly, therefore, five pounds. Their external surface is smooth, the fibrous covering not being diseased; internally they are of an encephaloid structure, the several tissues of the organs being transformed into brain-like substance, but of former consistency; they had lost all character by which it could be supposed they had been transformed from kidneys, not even the pelvis or infundibula being distinguishable; the left

is lobulated as in the foetal state, having somewhat its normal form; the other has lost all anatomical character. These organs were suspected to be diseased; therefore the urine was not chemically examined. After death, the bladder contained a little of this secretion, but only sufficient to detect its constituents, being largely impregnated with alkaline matter.

Dr. JOHNSON then read a communication from Mr. Fergusson on three cases of affection of the upper jaw. The specimens were exhibited.

Osseous Tumor removed from the Face of a Girl, aged 14, involving the Right Superior Maxilla and the Malar Bone.

Enlargement was noticed six or seven years before the operation, and seemingly commenced in the alveolar ridge. There was no trace of the antrum. Patient made a favourable recovery, and has remained well since.

Osteo-sarcomatous Tumor from the Face of a Woman, aged 36, involving the greater part of the Left Superior Maxilla.

The tumor projected slightly into the mouth, and filled the anterior of the antrum. Portions of the alveoli had been removed on two occasions previous to the last operation, when the whole mass, including the malar bone, was extirpated. The operation was performed about three months ago, and there has been no indication of return of the disease. The reappearance of the disease, which does not indicate malignancy in its physical characters, may probably admit of explanation by reference to the manner in which the growth has extended in an upward direction, so that it was not isolated by the horizontal sections of the alveoli which had been made for its removal at the first operation.

Portion of a Medullary Tumor occupying the site of the Superior Maxilla removed, after death, from a man aged 54.

An operation had been proposed at an early period; but the patient refused to submit. The tumor grew rapidly, and he was anxious for an operation when it was too late. It extended to the base of the cranium, and had all the characters of malignancy.

Dr. BENTLEY exhibited a

Tumor of the Lower Jaw,

which had been removed by Mr. Key. The patient, a boy, æt. 13, was admitted into Guy's Hospital in October 1841. He was pale and sallow, with a high and somewhat projecting forehead, light hair and eyes, and emaciated appearance. In consequence of

his not being able to articulate distinctly, some difficulty was experienced in obtaining a history of the case. The following particulars were noted at the time:—

About two years ago, a small lump appeared on the anterior part of the lower jaw, gradually increasing and extending backwards, forcing out, after a time, many of the lower teeth. Has never experienced any pain. The jaw gradually increased in size, when he applied to a surgeon, who tried various remedies without relief. Has always enjoyed a fair share of health, and can eat and drink well.

When admitted into the hospital, the lower jaw was apparently much enlarged and thickened, and advanced beyond the upper, having resting upon the upper part of the symphysis a globular, vascular sarcoma, which, about fourteen days back, had begun to ulcerate on the surface, and at intervals bled profusely. Styptics were applied to arrest hæmorrhage.

Seven days after admission, Mr. Key determined to remove the diseased part, which was accomplished in the following manner:—An incision was made along either side of the horizontal ramus of lower jaw, commencing from the angle in the hollow of the neck, meeting each other in the mesial line; the flap was turned up, and the cut vessels immediately secured; the lower jaw was sawn through, just anterior to its angles, detaching a small portion of the masseter muscle on each side. The jaw was carefully dissected out, the flap brought together, and sutures applied.

On the fourth day, the sutures were removed, and the whole of the wound had nearly healed. He left the hospital on the 9th of November, having no bad symptom, and is now in perfect health.

The condition of the jaw prior to and after the operation was illustrated by drawings.

Dr. HALL DAVIS exhibited
Microscopical Preparations of Mollities Ossium,

with which a woman, dying from rare uterine disease, the particulars of which had been submitted to the consideration of the Society some weeks back, had been affected. Dr. Davis had previously submitted some specimens to the examination of Dr. Sharpey, Mr. Dalrymple, and Mr. John Quekett, who had remarked that the Haversian canals were much larger than natural; as also the bone cells; and in parts, near the edges of the bone, forming the wall of the Haversian canals; the canaliculi were but slightly visible, or had entirely disappeared. The bone along the edges above mentioned was extremely transparent; and numerous nucleated cells, blood discs, and fatty matter,

occupied the cancellated structure, and some of the Haversian canals. The bone had also been examined chemically by Dr. Garrod, who found that 100 parts dried at 212° yielded—

Phosphate of lime	16.40
Carbonate of lime, with phosphate of magnesia	4.88
Fatty matter	20.35
Gelatinous yielding matter	58.37

100.00

thus exhibiting a considerable difference from the proportions given for healthy bone by Berzelius—viz.

Earthy matters	66.70
Animal matters	33.30

The history of the case was then detailed, and it appeared that the female had, at the commencement of the affection, lived in a dry climate, and for the last six years of her life in Lancashire, on the borders of a lake surrounded by woodland. There had been no hereditary tendency, the father and mother being still alive, as also five other children, all enjoying perfect health. She had never been affected with rheumatism, and died from an acute attack of pneumonia.

Dr. HANDFIELD JONES then read

Some Observations on a variety of Nutmeg Liver,

and which were illustrated by drawings. He remarked that every lobule on those parts of its surface which form the sides of interlobular fissures, has undergone, for some little depth in its interior, the fatty degeneration; while all the interior part, comprising about two-eighths of the whole lobule, remains in nearly its natural state. If a thin section be taken from a liver in this condition, it presents, when viewed under slight compression, by transmitted light, the appearance shown in this drawing—viz. a dark zone, occupying solely the peripheral parts of the lobules, bounding distinctly the fissures by which they are separated, or indicating their situation when they are not disclosed by the section. Congestion in these instances is usually, I think, of the slighter kind,—the first stage of hepatic venous. It does not extend to the opaque margins of the lobules, which thus appear, by direct light, of a lighter tint than the central parts. He (Dr. Jones) suggested the following explanation of the above fact:—The cells of the liver, the acknowledged agents in the work of secretion, are known to be ranged very much in a radiating manner, forming long rows, which branch and communicate with adjacent ones. This disposition has appeared to me to obtain most perfectly in those livers which exhibit the least appearance of retained secretion, such as those of the rabbit

and pig; while in specimens from the human subject, where the organ had been long congested, and the cells contained numerous particles of biliary matter, it has been more or less lost—the cells coalescing together in such a manner as to represent a plexus with small meshes. It seems, therefore, probable that the linear arrangement of the cells has some relation to the due discharge of the secretion. Further, I have lately endeavoured to show, that it is by the cells at the margins of the lobules, forming the terminations of the several radiating series, that the secreted matter is finally discharged. It appears to be transmitted from cell to cell until it reaches these, which, projecting at such times towards the fissure, burst, and yield up their contents, to be conveyed away by the minute efferent ducts. Thus, the secreting process appears to reach its termination in the marginal cells of the lobules, which are often seen to contain more numerous or deeper tinged particles of secretion than those in the interior; and in these it is quite conceivable that the transmissive function may be especially liable to interruption—the centrifugal force by which the secretion makes its way outward failing as it were at this point, and thus an accumulation of oily matter taking place in the cells. How far this theoretical view may prove to be correct, further inquiry will probably show. Its main idea, however, is, I think, well founded, and practically important, as it recognises, and in some degree explains, the great tendency of the liver to be affected with biliary congestion, or, in other words, undue detention of secreted material in its cells.

Mr. SANKEY exhibited specimens of

Great Hypertrophy of the Solitary and Agminate Glands of the Intestines,

Which were taken from the body of a female patient, who had died on the fourth day of fever.

Mr. DALRYMPLE exhibited a specimen of *Diseased Heart, in which the Root of the Aorta had an opening common to the two Ventricles.*

The patient, a delicate female, aged twenty-five, with narrow thorax, had been subject to deranged circulation from her birth. She died from ascites and anasarca. The heart weighed twenty-six ounces; the right auricle was large and thick, the right ventricle dilated, and encroached on by the bulging of the septum; the tricuspid valve healthy, the pulmonary thickened; left auricle thin and dilated; mitral valve thickened, and studded with nodules on its free edge; left ventricle dilated and hypertro-

phied to a great extent, and, at the apex of its cavity, was observed a fleshy polypus, adherent to the interior wall, injected, and having a purulent deposit in the centre. Aortic valves healthy; foramen ovale closed; root of the aorta opening between the two ventricles by an aperture of the size of a sixpence.

Mr. TOYNER exhibited a preparation of *Aneurism by Anastomosis, in the substance of the Parietal Bones.*

The subject of the disease was a youth aged nineteen, who died of consumption. He was brought into the room for dissection; and there is no evidence to show that the disease was detected during life. Corresponding with each parietal eminence, there is a rough and slightly elevated portion of bone apparently occupying the centres of ossification, and situated about an inch from the coronal, and an inch and a quarter from the sagittal suture. These osseous projections are pear-shaped, the apices being directed posteriorly, and the broad ends in front. That on the right side is rather the larger, measuring three inches in length, and at its greatest breadth one inch and three quarters; that on the left side is in length two inches and three quarters, while its breadth is an inch and a half. The surface on the right side measures seven inches in circumference; that on the left, seven and three quarters. The right projection, though as broad at its widest end, diminishes so much as to be not more than three quarters of an inch at its narrowest. On further examination of these surfaces of bone, they are found to present at their circumference a certain degree of unevenness, caused by numerous superficial grooves, as if from vessels lying upon the bone. These grooves radiate from the circumference of the surface; and as they approach the portion of bone most diseased, they become deeper, and small orifices are observed opening into them. The rough surface itself is composed, firstly, of grooves, which are in some parts from a line to a line and a quarter in depth; secondly, of osseous cavities, about a line in diameter, and bounded laterally by the walls of the canals; thirdly, of canals which admit of a free communication between the grooves. These grooves, cells, and canals, are so numerous, and their intercommunication so intricate, that they form a labyrinthine network of singularly beautiful appearance. Into the floor of the canals and sulci innumerable orifices enter. The grooves and canals were, in the recent state, full of an intricate network of ramifying blood-vessels, but it was impossible to inject them, from their being cut into before their nature was detected.

Mr. TOYNER remarked, that, so far as he had been able to examine, the tumors situated in the substance of these bones were analogous to the congenital vascular tumors so frequently developed in the integuments of the head and face.

Medical Trials and Inquests.

CASE OF POISONING BY BITTER ALMOND WATER.

ON Friday last, an inquiry took place before Mr. Wakley, concerning the death of a Miss Collier, residing at 15, High Street, Camden Town. The first witness examined was Mr. John Pounds, cousin of the deceased. He stated, that the deceased died on Monday last, at about a quarter past 10 o'clock in the evening. About a fortnight before her death, he attended with her at Dr. Cronin's, 14, Leicester Place, Leicester Square, and two prescriptions were then given by Dr. Cronin, one to the deceased, and one to himself. He identified the prescription given to the deceased, and which was as follows:—

"R.—Spt. ammon. aromat. 2 drachms; tinct. opii, 16 drops; acidi Prussici. (Scheele's strength) 4 drops; pulv. strychn. comp. 2 grains; aquæ amygd. amar. 6 ounces; M. ft. mist. e qua sumatur coch. ij. ter die.—Feb. 3d, 1847.—Miss Collier.—D. C."

After delivering it to her, the doctor took it from her again, and gave it to a young man, an assistant of his, in order to get it dispensed. A bottle and a box of pills were then given to Miss Collier, whom Dr. Cronin desired to take two table-spoonfuls of the liquid. He saw her take some of the medicine and on the following day he went again with her to see Dr. Cronin, by his desire. Dr. Cronin on that occasion told Miss Collier, in answer to a question put by her, *that her prescription could be made up anywhere*. She paid the doctor a guinea for two visits, and the witness did so also. The medicine was paid for besides. The deceased consulted Dr. Cronin for a violent pain in her back, of which she complained. On the night of her death, Mr. Johnston, he believed, took the prescription in question to Mr. Corfield, the chemist, in 47, High Street, to have it made up. He returned with the medicine, of which Miss Collier poured about a *table-spoonful and a half* into a wine-glass and drank it off. About three minutes after drinking it she said, "Oh! how queer I feel," and appeared to be taken suddenly unwell. She left the room, and went out towards the garden, where she fell. He followed her and called for assistance. Mr. Johnston'

who was at the time in the kitchen, ran up, and, seeing how she was, went at once for Mr. Corfield, the chemist, who called in Mr. Weathers, the surgeon. Mr. Weathers tried to produce vomiting by using a quill and his finger; then he tried to give her brandy and water, and applied cold water to her face; but all without effect. The stomach-pump was not used. The deceased was not convulsed, and her limbs remained motionless, but she breathed hard, and groaned. After falling in the garden, she lost the power of speaking distinctly. Before taking the mixture, she had been quite lively, she appeared in her usual health and spirits, and he was not aware of her being subject to fits.

Mr. George Weathers, surgeon. He was called to see the deceased lady, and reached the house about a quarter to 10 o'clock in the evening. She was in the parlour, perfectly insensible, and motionless. The pupils of the eyes were greatly dilated, and there was no sense or animation about her. From her appearance he judged that she had taken prussic acid. When he could get the mouth open, he tried to excite vomiting; but finding the pulse sinking, he used stimulants externally and internally. He applied mustard poultices and used friction to the extremities; but all was without avail, for in a quarter of an hour she was perfectly dead. From the first moment he saw her, he considered the case fatal. Strong ammonia was applied by him to the nostrils, and also put in the brandy, but it produced no effect. He had since examined the body. The lungs were perfectly healthy; the heart and large vessels leading from it were perfectly sound; the liver, kidneys, and intestines, also were perfectly healthy in structure. The stomach was removed for examination. The membranes of the brain were in a natural state, but its surface was somewhat congested, and there was a slight odour of prussic acid perceptible. This was not observed in the abdomen. The blood was fluid everywhere. He engaged the assistance of Dr. Scofield in making a chemical analysis of the contents of the stomach, the coats of which were in a perfectly healthy condition. The smell of prussic acid was perceptible. It contained three or four ounces of liquid and three or four ounces of solid matter. The contents were subjected by them to three tests, all of which proved the presence of prussic acid in a sufficiently large quantity to account for death. He had not the slightest doubt that prussic acid was the cause of Miss Collier's death, for he never saw organs in a more healthy state than hers appeared to be in upon the *post-mortem* examination.

Mr. J. A. Johnston stated, that on the evening of Monday last he called for the

medicine at Mr. Corfield's, the chemist. There had been some delay, and Mr. Corfield said he was sorry that it had not been sent, but he had to send to Mr. Bell's, in Oxford Street, for one ingredient. The prescription was then made up in his presence, and he took it home and gave it to the deceased. The bottle produced was the one which contained the medicine. She poured it out in his presence, smelling it at the time, and remarking that it was very strong. She then handed it to Mr. Pounds and to him, and he remarked that it smelt very strongly of almonds. He should say, that she did not pour more into the glass than one and a half table-spoonful. He went down stairs before she drank it, but shortly after he was called up, and he saw her lying under the garden door, quite insensible. As soon as he saw this he ran for Mr. Corfield. He was absent in search of another medical gentleman when Miss Collier died. He had known her for 18 years. She was not subject to fits.

The Coroner was proceeding with further proof in respect to the prescription, when Dr. Dennis Cronin came forward and acknowledged it as his, and given by him to the deceased. He stated, that he resided at 14, Leicester Place, Leicester Square, and was an M.D., being a graduate of Gießen, Germany, and a licentiate of the Apothecaries' Society, having a London certificate. The Coroner.—Is there any complaint made in this case against Mr. Corfield? Several voices.—Not any. Dr. Cronin.—Is there any made against me? The Coroner.—There certainly is, and it is founded on your prescription. Dr. Cronin (standing forward).—I was not aware of this. I have answered to your summons as a witness. Had I known that charges were to be made against me, I would have asked the witness several questions. The Coroner.—The witnesses shall be recalled, and you shall have an opportunity of asking them any questions you like.

Mr. Daniel Corfield, chemist and druggist, 47, High Street, stated, that he received the prescription produced on Monday evening from Mrs. Collier's house, but being very busy at the time, he said he would send it down. Not having the bitter almond water, or the compound strychnine powder, which were ingredients in the mixture, he sent his boy with a written paper for them: first, to Mr. Morsou's, in Southampton Row; and, failing to get them there, he sent to Mr. Bell's, in Oxford Street, where 12 ounces of the bitter almond water were procured, but the compound strychnine powder was not. He had been twelve years in business, and he had never seen either of those two ingredients used medicinally, and he knew of no form for their use in any of the autho-

vised Pharmacopœias. Mr. Bell sent him a private form for the compound strychnine powder, but not having the materials, he dispensed the prescription without it.

Dr. Cronin.—As I stand here in the situation of one criminally accused, I should have been present at the *post-mortem* examination. The Coroner.—That is quite out of the question. I was not aware that the family of the deceased had omitted to inform you of the complaint against you. Dr. Cronin again stated, that he had been taken by surprise. On Tuesday he was out in the direction of Camden Town, and, having called on Miss Collier, was greatly astonished to hear from Mr. Boulton of her sudden death. He intended being present at the inquest, out of respect for the family of the deceased, before he received the Coroner's summons.

Mr. Corfield here repeated that the bitter almond water and compound strychnine powder were not to be found either in the London, Dublin, or Edinburgh Pharmacopœias.

The Coroner.—As Dr. Cronin complains of being taken by surprise, and as it is most important that a careful analysis should be made of the mixture which it appears caused the death of this unfortunate lady, I think that the inquest should be adjourned. Dr. Cronin.—There is no necessity for the adjournment of the inquest on my part. I waive my objection of surprise altogether. Mr. Boulton.—I informed you on Tuesday of the particulars attending Miss Collier's death, and I told you that there was to be a *post-mortem* examination.

Dr. Cronin asked Mr. Corfield if he was aware that the bitter almond water sent him by Mr. Bell was a highly concentrated preparation? Mr. Corfield replied, that he had never seen the ingredient ordered before; and a desultory conversation followed, at the close of which,

The Coroner said, I ought to intimate to you, Dr. Cronin, that you are standing in a very serious position. You must already be impressed with that from what you have heard. The deceased, you hear, died from the effects of prussic acid, and you wrote the prescription, which the chemist swears was made up as ordered, with the exception that one ingredient was not put in. He also swears that, having been 12 years in business, he never saw the medicine prescribed ordered before, and that it is not named in the London, Dublin, or Edinburgh Pharmacopœias, nor is there any recognised formula for it. A Jurymen.—You admit that the strength of the bitter almond water is uncertain; you should in your prescription have stated the strength at which you wished it to be used. The Coroner repeated his previous opinion that the inquiry should be adjourned,

to allow time for a careful analysis of the mixture which caused death, and that a friend of Dr. Cronin's should be present.

Dr. Cronin said, he had no desire to adjourn the inquest. He courted the fullest inquiry, and expressed his surprise the prescription made up at his own dispensary should have improved the health of Miss Collier, while that made up by Mr. Corfield proved fatal to her. He quoted Mr. Brande's name as an authority, that a plain solution of bitter almond water was used in certain cases. It was also used in small quantities by confectioners.

Mr. Bell and Mr. Morson stated, that the solution used by confectioners was of a definite strength, while the bitter almond water known to chymists was of an *indefinite strength, and, as far as they knew, only used externally*. The effect of the ammonia included in the prescription would be rather to counteract the operation of the prussic acid.

Mr. Weathers was here recalled, and stated, that he had been in the profession for 15 years, and was in the habit of seeing physicians' prescriptions, but had not seen the compound strychnine powder or the bitter almond water used medicinally before.

Mr. Morson said, that his assistant brought to him on Monday night a paper from Mr. Corfield, asking him to supply him with 12 oz. of bitter almond water and some compound strychnine powder. His answer was that he had not got them. He had seen the bitter almond preparation ordered for external applications, but had never known it used internally. He was not aware of the existence of the compound strychnine powder. Ammonia would decompose Prussic acid, but the action of it was slow, and as it proceeded the fluid became darker and darker in colour. He kept the bitter almond water occasionally. It was obtained in the distillation of the essential oil of almonds, water being used in the process, and the water becoming saturated to a greater or less extent with the oil and Prussic acid according to the quantity of cake used.

Dr. Cronin.—Would the quantity in the prescription be sufficient of itself to destroy life? Mr. Morson.—That is a question which I am unable to answer. Dr. Cronin.—If the prescription had come to you in its present shape, how would you have acted? Mr. Morson.—*If that prescription had come to me I would have declined to make it up*. I have been in business for 30 years, and there is no recognised form of bitter almond water; there is none mentioned in the Pharmacopœias of this country that I am aware of. It may be in foreign Pharmacopœias.

Mr. Jacob Bell, chymist, in Oxford

Lectures.

ON THE

DIAGNOSIS OF HYPERÆSTHESIA.

*A Clinical Lecture, delivered at the
York Medical School,*

By THOMAS LAYCOCK, M.D.

Physician to the York Dispensary, and Lecturer
on the Theory and Practice of Medicine.

Definition of hyperæsthesia—differences between inflammatory and hyperæsthetic pain—ætiology of the latter—examples of mastodynia, and of sternal neuralgia—spinal tenderness as a diagnostic symptom—abdominal tenderness—hyperæsthetic affections of the pneumogastric or vagus—case of gastrodynia and cardiac neuralgia, and of periodic hyperæsthesia of the gastric branches—gastrodynia complicated with chlorosis, from miasmata?—auditory hyperæsthesia.

DISEASES of the nervous system, and more especially of the sensory portion, become daily more important, because the progress of refinement, the development of large cities, and the greater cultivation of the intellect than of the physical powers, consequent on the wide application of science to the arts, increase daily their number and complexity. Pain is a symptom present in various and diversified morbid states. It is pre-eminently the symptom by which we become conscious of disease in the organism; it is the sentinel that warns us of impending danger. Hence much stress has been laid upon it, especially in inflammatory diseases, of which it is one of the first characteristics. Pain is felt through the medium of the sensitive nerves; it is the result of a disturbance of the functions, or a change in the structure of those nerves. In inflammation the disturbance or change is seated in the percipient points—the peripheral terminations; the points on which sensorial impressions are made coexistent therewith are a greater susceptibility to impressions, a condition expressed by the term tenderness; so that impressions formerly too feeble to excite sensations, or only forcible enough to excite sensations of a pleasurable kind, now, in the altered condition of the nervous twigs, excite pain.

By the term hyperæsthesia, this condition of the nerves is meant; pain and tenderness are its characteristics. But they do not exist in virtue of a change in the tissues surrounding the nerves, and involving them as in inflammation, but in virtue of a change

limited to the terminating twigs, to the track of the nerve, to the sensory tract of the spinal cord, considered as partly a continuation of sensory fibrils, or to their termination in the brain, or that part of the brain which is the seat of consciousness. The greater susceptibility arising from a morbid condition of the nerves only, and that arising from a morbid condition of the tissues to which they minister, are therefore expressive of two widely different morbid states; the one is neuralgic sensibility, the other the pain and tenderness of inflammation. Being widely different in their nature, they require a widely different plan of treatment; and consequently the diagnosis of the two conditions, or a true estimate of the value of pain and tenderness, as leading symptoms, is of the first importance.

The seat of neuralgic pain is always in the terminating twigs; but that is rarely the seat of the cause. It is in the trunk of the nerve, or to the sensory tract of the cerebro-spinal axis, that we must look for this. In the pain of inflammation the cause is local, and when it is external there is tumor and rubor. In inflammation of the viscera, the cause need not be latent, inasmuch as the stethoscope, in inflammation of the thoracic viscera, and changes in the form and function of the abdominal and pelvic viscera, reveal its true nature, and enable us to establish our diagnosis.

The character of neuralgic pain differs from that of inflammatory pain. The one is always described as pungent, lancinating, shooting, pricking, &c., and is accompanied by perversions of sensation, as in the skin, by *ardor*, or a sensation of burning, *algor*, the sensation of coldness, *pruritus*, the sensation of itching, *formicatio*, the sensation of something (as an ant) lightly touching the surface; the other is a dull, obtuse, acute, sharp pain, according to the seat of the disease. It is true in some structural changes you have lancinating or shooting pains, as in hydatid or cancerous deposits, but in these the nervous twigs and branches become involved, and the pain is therefore of the neuralgic character.

The morbid condition giving rise to hyperæsthesia may be seated in the fibril or the central axis, and it may be either primary or secondary. Any cause which exalts the sensorial function in either point gives rise to hyperæsthesia; as a mechanical injury or contact, or congestion of the neurine. Nerves of sensation passing through foramina in the bones, or winding round bones or tendons, are peculiarly liable to the first-mentioned causes. Hence the nerves of the face are so much more frequently neuralgic than others. Spiculæ of bone, or of cartilage, or analogous deposits in or on the sero-fibrous envelope of the spinal cord, are

of this character. With regard to other causes of hyperæsthesia, the most frequent and most important is a propagation of irritation from the peripheral twigs to the central axis, a diffusion of that irritation through the grey or white matter, so that it involves other nerve-fibrils, and a consequent extension of the pain and tenderness to other sensory nerves. We thus explain the pains experienced in the hips and thighs from congestion of the uterus. This transmission and diffusion of irritation may be from contiguity, as in the case just mentioned, or from functional connexion, as between the mammae and ovaria or uterus; or the sympathy may arise between parts deriving their innervation from a common system of nerves, as the uterus and stomach. Hence the anatomical and physiological relations of the organs affected must enter largely into our consideration when establishing the diagnosis between neuralgic and inflammatory pain and tenderness.

We have two cases of mastodynia which will illustrate these views. You remember the poor phthisical woman to whom I alluded in my discourse on Scrofula as being under the protection of enlarged scrofulous glands in the neck and axillæ. Well, she is still living, but the glands in the left axilla have gradually enlarged, and recently have involved some branches of the brachial plexus. She has now shooting stabbing pains in the mamma of the same side, and in the arm, shooting down to the finger-ends, and coming on in paroxysms of intense violence. Here the diagnosis is easy. There is no tumefaction of the mammae; a slight touch aggravates the pain: there is, therefore, tenderness, but it is not tenderness on pressure, for pressure lessens the pain. If the case had been inflammation of the mammae, a slight touch would be tolerable compared with heavy compression. Further, you have the axillary tumors visibly occupying the site of the brachial plexus, and you have the patient holding the arm as close as possible to her side, with the intent, as she says, of relieving the pain, or, in other words, relaxing the tension caused by the tumors.

The other case of mastodynia is that of a married female, aged 40. She complains of a "stinging" pain; that is, a shooting and lancinating sensation in both breasts, with a pricking deep in the mammae as if there was "a draft,"—the sensation felt during lactation, — for our patient is a mother. The pain occurs in paroxysms, at which time the mammae are very tender, but in the intervals they are tender also, and she cannot bear them to press against the bed-clothes: they are somewhat enlarged. She further complains of a sense of

something rising in the throat, and a feeling of constriction just above the sternum; she is subject to be nervous, and to nervous palpitation, and her voice and manner confirm her history, for her lips are tremulous, and her tone of voice is acute, feeble, and trembling.

Now in this case we have no visible local disease; there are no external signs of inflammation of the mammae; the character of the pain is neuralgic; the manner of the patient is confirmatory of the character: what nerves, then, are affected, and how? Not the cutaneous nerves, as in the other case, for the pain is most specifically declared to be "inside" the mammae, and it is clear from her description that the lactiferous ducts are implicated, and as *both* sides are affected, the affection is symmetrical. The cause, then, is seated in a point common to both—the central axis; and we have to inquire how this has happened,—that is, whether it be a structural change or a physiological one.

The organs most nearly related to the mammae are the uterus and ovaria; and we find that menstruation has been suspended for four months, and that during that time the abdomen has been tumefied. On further inquiry, we learn that the subsidence of this tumefaction was coincident with a profuse menorrhagia, accompanied with pain in the hypogastric and iliac regions, the back, and the hips. But the subsidence was not complete, for there is still a perceptible tumor in the left iliac region, which is tender on *pressure*—not to the touch. We make no examination per vaginam or rectum, and consequently our knowledge as to the condition of the uterus and ovaria is imperfect; but, returning to the thorax, we examine the heart, and find no abnormal sound except the sharp clang so often heard in nervous palpitation.

The diagnosis is complete enough for present treatment, although the investigation is imperfect. There is centric irritation of the œsophageal and cardiac branches of the cardiac plexus, exciting spasmodic constriction of the œsophagus and increased cardiac action, together with irritation of the mammary nerves. The neuralgic disturbance is a consequence of the functional connexion that exists between the mammae and the original seat of the disease,—namely, the ovaria.

We have a patient presenting an example of this neuralgia in another form. She is married, aged about 38, and labours under disease of the ovaria,—hypertrophy, or dropsy. She also complains of pain in the thorax, neck, and arm, but no pain in the mammae, only an occasional slight shoot; while just in one spot, situate in the centre of the first division of the sternum, there is

exquisite pain and slight tenderness,—slight pressure thereon causing gasp. Now, this is an example of a rather rare form of neuralgia,—a form I have described in my published work as *sternal neuralgia*. It is accompanied in this case by other neuralgic pains in the course of branches of the cervical or brachial plexus, namely, the posterior of the ascending superficial branches of the cervical; and the seat of the neuralgia is probably in the clavicular twigs of the descending superficial branches which are distributed to the upper part of the thorax.

But why do I term the affection neuralgic? 1. Because there are no signs of inflammation; the pulse is calm, the breathing unaffected: thirst is the only suspicious symptom. 2. The character of the pain coming in paroxysms, the kind of tenderness, and the shooting in the course of certain nerves, are all pathognomonic. A sinapism between the shoulders has relieved the pain in the neck, shoulder, and arm.

In this case there was a symptom which I have not mentioned, but which has by some physicians been considered pathognomonic of irritation of the medulla spinalis—I mean tenderness on pressure of the vertebral column. At a point corresponding to the tender point on the sternum, there was a tender point on the spine. This hyperæsthesia of the sensitive spinal nerves at the posterior median line of the body corresponds to the hyperæsthesia on the sternal median line. We know that the nerves from the two symmetrical halves meet and terminate in the median line anteriorly and posteriorly, and it is possibly for this reason that increased sensibility is manifest at these points: besides, Weber has demonstrated that there are portions of the cutaneous surface on the anterior and posterior median line of the thorax which are more sensitive in a state of health than the rest, so that these will be the first to display a morbid sensibility when the sensory tract of the spinal cord is disordered functionally. It is not an improbable supposition that there is centric irritation in cases of this kind, or spinal irritation, as it is termed; but you must not suppose that the pain experienced on pressure of the skin against the bony spine is indicative of tenderness of the medulla, as some writers think, or even of inflammation or tenderness of its bony envelope. There is hyperæsthesia of the cutaneous nerves—neuralgic sensibility,—nothing worse. If, therefore, you press the sternum, you give pain: if the spine, you give pain. The irritation of the sensory nerves may pass over to the motor in the central axis, and then you may have gasp or spasm in addition. Sometimes this neuralgic sensibility is very great, so that the touch of a feather

gives torture and excites convulsions. In such cases it would be of course rather illogical to talk about a “tender cord.” Again, sometimes other cutaneous nerves are affected in like manner as the sensory branches of the fifth in tic douloureux, and those of the abdomen in hysteria. This happens to the latter in those cases of *cerebro-spinal* irritation (for that is the proper term, inasmuch as the whole cerebro-spinal axis is more or less affected) in which the more pressing neuralgic phenomena shew themselves in the colon, kidneys, bladder, and uterus. In these you will have various symptoms, simulating abdominal inflammation, as enteritis, peritonitis, &c.; and I know examples in which they have been misapprehended. This has arisen principally from the exquisite tenderness of the abdomen. But here again the neuralgic character of the phenomena will, if they be carefully watched, arouse your suspicions, and induce you to inquire diligently into the anamnesis or medical history of your patient. You will find, perhaps, that a very slight touch gives very much pain: a heavy touch, little pain, or perhaps relieves. You will notice, too, that your patient does not seek to relax the pressure of the abdominal muscles upon the peritoneum by drawing up the thighs and bending forward the trunk. You will remark, likewise, that the expression of the countenance is not enteritic or peritoneal; there is none of that dragging of the face, that knitting of the brows, and that expression of intense anxiety, so characteristic of abdominal inflammation and disorganization. On the contrary, the countenance of the patient is placid, and the expression of suffering is that ordinarily exhibited when the cutaneous nerves are affected. Finally, the history of your patient’s case will reveal to you a whole train of nervous or hysterical phenomena.

Hyperæsthesia of the vagus or pneumogastric nerve, especially of its œsophageal and gastric branches, is perhaps the most common of all neuralgic affections; and this frequency ought not to create surprise when we remember how directly all mental operations act upon these nerves through the central axis,—how quickly poisons taken into the circulation react upon them,—how intimate is the connexion between the stomach and other viscera of the abdomen and pelvis,—and how continually the nerves of the stomach are exposed to the application of local irritants. When we know that a puncture or wound of a sensitive nerve in the hand or finger will excite irritation in those of the whole limb,—that from these it will radiate upon the nerves of the opposite limb, and, extending its influence upwards and downwards, at last involve the lower extremities and trunk,—we may rea-

reasonably infer that some such train of phenomena may occur after local irritation of the nerves of the stomach, and that the nerves of the heart and lungs, and the sensory twigs of the upper extremities, may become involved in the morbid condition, while, with the extension of it upwards, hypochondriasis supervenes. Common as this class of diseases is, I know none which demand more care to establish a correct diagnosis. The most common forms of this hyperæsthesia are gastrodynia, pyrosis, pleurodynia, globus, and the sympathetic affections of the heart and brain termed palpitation, headache, hypochondriasis, &c. In persons predisposed or liable to spasmodic asthma, the pulmonary plexus will also be involved, and coughs, asthma, &c., result. These symptoms vary almost *ad infinitum* in their combinations.

An instructive case has been presented to our notice lately. A woman, aged 50, experienced great pecuniary losses, and, to solace herself, she took stimulants and contracted habits of intoxication. In a while, she was attacked with violent pain in the epigastric region, acid eructations (pyrosis), violent palpitation, constriction of the throat, and the sensation as if something was rising (globus), and total loss of appetite. The pain in her left side could almost be covered with the finger; in her right, it shot down the side and down the arm, even to the finger-ends. When supine, she felt a great weight upon her body, as if something was pressing heavily upon her (*incubus*), and she had continually a dread of something going to happen—a depressing consciousness of guilt, and fear of impending punishment, but without any ideas whatever regarding it. Her former adviser shook his head, and she therefore concluded that her disease was incurable. Her tongue is slightly furred.

Now here, at the first glance, you might infer either disease of the heart or of the stomach; and we investigated the heart's action, but it was perfectly normal; nor was there any induration, tension, or tenderness in the epigastric region. A further consideration shows, however, that the vagus is most probably the seat of the disease; for—1, the etiology is significant—depressing emotions and local stimulation preceded the attack; 2, the characters of the phenomena themselves, as the pyrosis, indicating increased activity in secretion; the pain indicating increased susceptibility to impressions; the pleurodynia (neuralgia of an intercostal nerve) and neuralgic shootings in the right arm indicating radiation of morbid action upon the cerebro-spinal nerves; the globus indicating spasmodic action of the œsophagus; the pain and palpitation of the heart not dependent on structural change, and therefore consequent on disordered innervation.

The indications of treatment consequent on this diagnosis were to allay irritation by alkalies, metallic oxides, combined with morphia, and counter-irritation. Temperate habits were insisted on, or death was declared to be the alternative; and the result was, considerable alleviation of the symptoms. One source of hyperæsthesia was not investigated in this case, namely, structural disease of the uterus. This, I ought to add, is an extremely common cause of hyperæsthesia of the vagus and solar plexus in women, and of all the secondary phenomena.

We have had many cases of gastrodynia and of nervous palpitation complicated with chlorosis. I am inclined to think that in these the primary cause of the affection is a poisoning of the blood by miasmata, and that the celiac axis or solar plexus is the portion of the nervous system through which the splenic functions are disordered, inducing chlorosis, and co-incidentally (not as a sequel) the œsophageal and cardiac plexuses. It is quite certain that the morbid condition of the blood in gout is manifest in some persons by disordered innervation of the celiac axis only, and gives rise to the spasmodic or neuralgic affection termed "gout in the stomach," or "the spasms." These ætiological considerations should always have weight in your diagnostic estimate of the symptoms. Nature knows no difference between cerebro-spinal, reflex, or sympathetic nerves, unless it be that the latter are more frequently affected by malaria and other poisons than the former. It is extremely probable that the numerous examples of periodic neuralgia in organs supplied from the sympathetic system, recorded by authors, belong to the same class as brow-ache and other periodic neuralgia of the cerebro-spinal nerves. We have had one example of this kind. A married woman, aged 32, presenting a care-worn and somewhat cachectic aspect, with the livid circle on the lower lip so characteristic of cardiac disease, complained of pain in the stomach, rising in the throat, and palpitation. In the hurry of practice it was put down as *morbus cordis*; but, on examining the heart's action with the stethoscope, I found nothing abnormal except great slowness and feebleness in the strokes, the pulse being scarcely 60. On prosecuting the inquiry, I learnt that a few weeks ago, when she began to be ill, there was a great increase in the urinary secretion, and that it was very pale (urina nervosa); that the pain came on in paroxysms every evening at 8 or 9 o'clock, continuing through the night, and preventing sleep; that the pain in the cardiac region was extremely violent; that it was ushered in with violent shiverings (rigors); and that the coldness (algor) was persistent.

Here we had, then, hyperæsthesia of the cardiac and gastric nerves, and probably also the oesophageal, as globus was present; but these were not alone implicated, inasmuch as the sympathetic system of the skin was also affected, there being horripilation and albor. Then the patient resided in a malarious quarter, and the symptoms were distinctly intermittent, the paroxysm having the cold stage only. The diagnosis was confirmed by the therapeutics: a few doses of quinine had the effect of accelerating the pulse, bringing on the paroxysm earlier, namely, at 4 or 5 o'clock, rendering it shorter and finally extinguishing it.

There is an interesting example of hyperæsthesia of the auditory nerves in a man from the country. It appears to have commenced with local disease, implicating the right auditory nerve, and accompanied by neuralgia of the auricular branches of the inferior maxillary nerve of the right side. The noises he hears are as loud as a railway or a large mill, or like loud ringing of bells, screaming of birds, &c. After the affection had continued awhile, the left auditory nerve and auricular branches of the fifth on the left side became affected in a similar manner, but in a less degree,—an example, I am inclined to think, of radiation of morbid action from one side to the other in the central axis itself. The paroxysms, when most violent, are accompanied by loss of consciousness; and when the neuralgia is coming on, the illusive noises become much less distinct. We have not yet investigated this case sufficiently, but it is probable that the affection depends on structural change in the right auditory and auricular nerves.

I should advise you to cultivate the habit of looking upon the nervous system as a whole, all the parts of which act and re-act upon each other. It may be true that every nerve in connexion with the spinal cord consists of the five distinct nerves some writers represent, namely, volitional and sensual, incident excitator and reflex motor, and sympathetic; but it certainly is not *proved*. On the other hand, if you conceive all the nerves to be subject to the same general laws, but having different functions in virtue of a difference in the apparatus on which they are distributed, and in the centres on or from which they act and re-act, you will, I think, arrive at results as comprehensive as the five-fold division affords, but much more comprehensible and much more applicable to every-day practice. The physiology of the nervous system must be carefully studied by you if you would practice happily; but the study is a fascinating one when once entered upon, and you may be tempted to a chase after discoveries, or the illusive fame of them, instead of a pursuit after truths by which you can cure or alle-

viate disease. Depend upon this, that no men are so unhappy as "discoverers" *ex professo*.

Original Communications.

A COLLECTION OF FACTS ILLUSTRATIVE OF THE

MORBID CONDITIONS OF THE PULMONARY ARTERY,

AS BEARING UPON THE TREATMENT OF CARDIAC AND PULMONARY DISEASES.

By NORMAN CHEEVERS, M.D.

[Continued from page 226.]

THE CAUSES OF PERMANENT ABNORMAL COMMUNICATIONS BETWEEN THE CAVITIES OF THE HEART.

THROUGHOUT the foregoing observations, it has been assumed, as a well ascertained fact, that, in all cases where the cavities of the heart remain single, or in which the ventricular septum is found incomplete subsequently to the birth of the child, these structural imperfections have depended upon the occurrence, at a very early period of intra-uterine life, of a certain amount of impediment to the pulmonary circulation, the result either of a structural defect in the pulmonary apparatus, or of a distinct cause of mechanical obstruction existing in some other part of the vascular system. It has also been taken for granted that, in a large proportion of cases where the foramen ovale and arterial duct remain permanently open, the persistence of these canals is due to the influence of similar impediment operating either before or very shortly after birth. This view has arisen from observation of the frequent association of imperfection of the auricular and ventricular septa, and patency of the ductus arteriosus, with contraction or obliteration of the right auriculo-ventricular orifice or pulmonary artery, with imperfect development of the lungs, or with narrowing or occlusion of the mitral aperture, or of some portion of the aortic arch.

It would now be difficult to ascertain the precise time at which the influence of vascular obstruction in producing non-closure of the foetal passages of the heart first became known to anatomists, but it is certain that the credit of establishing this view cannot be assigned to any writer of the present day. Morgagni was undoubtedly well acquainted with the principle,* and, in the

* Epist. xvii. § 18.

year 1783, Dr. William Hunter referred* to the existence of an abnormal communication between the ventricles, as an arrangement intended to make up for the defect in a pulmonary artery which was preternaturally too small to give passage to the whole blood of the right ventricle, without which compensation life could not go on. In 1805, Dr. Walker published some remarks on a case in which he very expressly attributed deficiency in the septum of the ventricles to a want of capacity in the pulmonary artery.†

Subsequently to this, Dr. Burns explained the dependence of an open state of the foramen ovale upon dilatation of the left cavities, or contraction of the right ventricle and pulmonary artery.‡ M. Hein has also confirmed this observation, assigning contraction of the pulmonary orifice as one of the causes of permanence of the foramen of Botall.§

More recently, this principle has received strong confirmation from various pathological writers:—among others, MM. Berard and Bouillaud have remarked upon the coincidence of patency of the cardiac septa with causes of obstacle to the emptying of the cavities; and a very clear exposition of the matter has been given by Dr. C. J. B. Williams, in the *Cyclopædia of Practical Medicine*.||

Similar opinions have also been adopted and extended by Mr. T. W. King,¶ and by Dr. Craigie.**

The establishment of this view has gone far to correct the opinion, which is, even still, entertained in its fullest latitude by a few pathologists, that imperfection of the auricular and ventricular septa, and permanence of the arterial duct, are invariably to be regarded as injurious states, as the primary and essential conditions of the disease, and as the principal, if not the sole causes, upon which the symptoms of morbus cæruleus

depend. It is doubtless true that,—in a certain small proportion of cases where the open state of the foetal communications has depended upon *transitory* causes of obstruction occurring very early in life, and has become aggravated by subsequent disease after the impediments which produced the non-closure have ceased to be in operation,—patency of one of these openings must be regarded as a morbid condition; still it must be borne in mind that, in every instance, these communications have originally fulfilled a preservative office, affording the sole means by which nature has been enabled to prevent the circulation from being wholly arrested in consequence of some severe cause of obstruction.*

It is to be remembered, however, that instances of this uncomplicated kind are of by no means frequent occurrence; every anatomist who has practically investigated the subject will agree with Dr. Craigie that “the [permanently] open state of the foramen ovale” [and also of the ventricular septum and arterial duct] “is rarely a primary and solitary lesion.” In fact, these defects will generally be found to exist in association with some permanent obstruction to the circulation, either in the right or left heart, or in some portion of the pulmonary or systemic vessels.† A very simple illustration of this principle may be found in any case where the pulmonary artery is narrowed at its orifice, and either the ventricular septum, the ductus arteriosus, or the foramen ovale, is permanently open:—here the contraction of the artery is the disease,—the abnormal communication is the preservative adaptation, by means of which the circulation is rendered comparatively free, and the life of the individual is prolonged. I have already endeavoured to trace out the influence which progressive narrowing of these communications has in aggravating the symptoms of the disease; and, ultimately, in determining its fatal issue,‡ and it cannot be doubted that, were it possible to induce closure of the openings in the cardiac septa, and of the abnormal passage of the arterial duct in these cases, severe and ultimately fatal aggravation of the symptoms of obstruction would be produced in the majority of in-

* Dr. Craigie has illustrated this principle in the following just remark: “In opposition to what has been hitherto taught, the open state of the foramen ovale is in a large proportion of cases, the means of prolonging life.” Op. citat. p. 274.

† It is frequently, if not generally, observable that, where free patency of the foramen ovale exists as the sole congenital defect, it is associated with marked dilatation of the pulmonary artery, shewing that impediment has existed either towards the extreme branches of that vessel, in the left side of the heart, or in the systemic circulation.

‡ See the previous chapter, p. 226.

* Medical Observations and Inquiries, vol. vi. p. 306.—My attention was directed to this passage by a friend.

† Med. and Phys. Journal, vol. xiii. p. 431.

‡ Op. citat. p. 19.

§ Op. citat. (pub. 1816), p. 14.

|| Dr. Williams observes, that “Openings in the septum of the ventricles, when combined with decided contraction of the arterial tubes, we cannot but view as in most instances the effects of the latter; for it is a simpler idea, and one more consistent with the laws of development, to suppose that an obstruction, which pathologically speaking, is of frequent occurrence, retains the current of blood in the course which it held in the early period of its formation, than to ascribe a perforated septum to some specific and inexplicable arrest of its natural development. Art. Malformations of the Heart, vol. iii. p. 66. 1834.

¶ LONDON MED. GAZETTE, vol. xxvii. p. 751. Jan. 1841.

** Edinburgh Med. and Sur. Journal, vol. lx. p. 274.

stances; while, in many, the consequence would of necessity be instantaneous death. It is, of course, quite evident that, in a large proportion of cases of ventricular and arterial communication, and in some where the auricular septum only is deficient, the circulation would be at once arrested by any cause which could obliterate the abnormal channel. It therefore can never be a matter of surprise that a patient should have lived for many years with comparatively mild symptoms of heart disease, although the subject of a singularly large communication of the kind in question; as it will be perceived that, had there not been an abnormal aperture between the cavities or great vessels of his heart, to compensate for some permanent obstructive lesion in another part of the circulatory apparatus he probably could not have continued to exist at all; or that, had the communication been less free than it was, the symptoms would have been more aggravated, and the term of life far less prolonged. Hence, in the majority of these cases, we must not be satisfied with discovering a deficiency in one of the septa of the heart, and in attributing death to that imperfection, but it will be necessary to search further for the cause of obstruction to the circulation which has originally produced that defect, and in the subsequent aggravation of which the cause of death may generally be detected.

It has been loosely stated, that permanence of the foramen ovale has less tendency to destroy life than has any other species of congenital malformation of the heart;—but, although it is undeniable that, under unfavourable circumstances, every imperfection in the cardiac apparatus, however slight, has a tendency to turn the balance against the chance of recovery, it must not, we repeat, be usually considered that the ill consequences of this defect at all outweigh its preservative influence. Persons live longer, and are healthier with an open state of the foramen ovale, than with any other prominent form of cardiac malformation, because this deficiency, when it exists alone, usually depends upon slighter causes of obstruction than does either of the others to which the heart is liable; on the contrary, where the ventricular septum is deficient, or the arterial duct remains rather widely open, the symptoms are usually of a more prominent character, and the term of life is considerably shortened: this is, however, traceable to the fact that the defects in question are almost invariably due to the presence of some very considerable source of impediment either in the pulmonary or systemic circulation. It is, therefore, by the amount of obstruction, and not by the extent of the abnormal communication, that our opinion on the severity of these cases must be formed.

M. Louis denies the probability of the opinion that a perforated condition of the ventricular septum depends upon narrowing of the pulmonary artery, but he admits that such constriction of the vessel must, if it be congenital, prevent the foramen ovale from becoming closed, in consequence of the resistance which it affords to the passage of the blood from the ventricle*. This distinction is evidently not a just one, as the same cause which would prevent the closure of the foramen of Botal subsequently to the birth of the child, would, if occurring sufficiently early, equally tend to arrest the formation of the ventricular septum. M. Louis' opinion was probably due to the observation of cases in which there was reason to believe that perforation of the septum ventriculare occurred subsequently to birth. It is, however, impossible to believe that the exceedingly frequent coincidence of a distinct mechanical impediment to the circulation through the pulmonary artery, with congenital deficiency of the ventricular septum, can be regarded otherwise than in the relation of cause and effect.

I am not aware, from my own observation, that stricture of the aortic orifice, where that vessel is distributed from the left ventricle, has ever been found to occasion congenital deficiency of the ventricular septum,† but various forms of obstructive aortic disease, occurring at a later period of life, are observed to be attended with a tendency to perforation, or aneurismal yielding of the upper and fibrous portion of the septum, which is occasionally found to be extremely thin immediately below the base of the right aortic sigmoid valve,—a condition which has been described by Dr. Spitta, and which I have myself seen. Perforation of the ventricular septum may also occur at various periods of life from several causes, such as abscess, rupture consequent upon fatty degeneration, acute ulceration in rheumatism, &c.

In his recent work on *Narrowing and Obliteration of the Arteries in Disease*, Professor Tiedemann notices the frequent association of patency of the foramen ovale with arctation of the orifice of the pulmonary artery, whence Morgagni inferred that the narrowing of the vessel had taken place at birth; but the Professor contends that this could not be the case, otherwise the ductus arteriosus must be open also, which it is not. This reasoning is, however, erroneous; the ductus arteriosus has been found open in several instances of contraction of

* *Mémoires ou Recherches Anatomico-Pathologiques*, Paris, 1826.

† It has been argued that congenital imperfection of the septum may be determined by a narrowed state of the aortic orifice; but I am not acquainted with any of the cases upon which that conclusion is based.

the pulmonary orifice*, and we have seen that, in cases of congenital obliteration of the ascending pulmonary trunk, permanence of the arterial canal is the most frequent compensating provision; on the other hand, a case of congenital narrowing of the pulmonary orifice has been recorded†, in which the foramen ovale was obliterated, while the ductus arteriosus remained pervious. And, in a very large number of examples, where the congenital origin of atretation of the right ventriculo-arterial orifice was evidenced by its association with an incomplete condition of the ventricular septum, both the foramen of Botall and the arterial duct were found perfectly impervious.‡ Indeed, a case which I have cited, at the commencement of this paper (Dr. T. Chambers' case, p. 284), proves that the pulmonary orifice may become completely obliterated during intra-uterine life, without preventing the subsequent closure of the duct and foramen. I have already attempted to explain the reason why permanence of these two canals is not determined in all cases of congenital narrowing of the pulmonary orifice (pp. 372, 3). In some instances of contraction of this aperture, in which patency of the foramen ovale is the only other associated lesion, it may possibly not be very easy to decide with absolute certainty whether the morbid appearances are congenital, or whether, as Professor Tiedemann suggests, the foramen may not have been reopened in consequence of the impediment which the blood encountered in moving from the right side of the heart; still, the cases must be of rare occurrence in which a careful examination of the structures will not enable the anatomist to form a tolerably accurate opinion as to whether the lesions in question were of congenital origin or of more recent date. It may perhaps happen that, in some cases of great contraction of the pulmonary orifice, either the ventricular or the auricular septum may become thinned, and perforated by ulceration;§ but I am not

acquainted with any cases in which the appearances presented by the abnormal apertures rendered it at all certain that this event had occurred*. It will generally be easy to distinguish an ulcerated opening in any portion of the cardiac apparatus from a congenital deficiency of the tissues of the part; and I believe that most persons who have been in the habit of examining malformed hearts, will concur in declaring, without the slightest hesitation, that the smooth and regularly formed circular openings through which the blood is diverted in cases of atretation of the pulmonary artery are indisputably the results of congenital defect. If the opinions of Professor Tiedemann are intended to apply to cases of this kind in general, they are assuredly not valid, and they cannot be regarded as in any degree subversive to the views on this point which had been long previously established.

The only other controvertible opinion on this subject which it is necessary to allude to here, is that of Mr. Thiebault, who has suggested that the blue disease may arise, in the first instance, from a plethoric state of the infant at birth, preventing the changes which should take place in the circulation at that period. It is true that the severity of the first symptoms of cyanosis may occasionally sustain a temporary relief from the employment of [that practice which Mr. Thiebault recommended on the strength of his theory, viz. of allowing a certain quantity of blood to flow from the umbilical cord immediately after birth: still, it is of course impossible to believe that a cause of this kind, occurring at so late a period, could have any influence in producing an irregular disposition of the vessels of a malformed heart, or that the treatment in question could avail in modifying the confirmed structural defects which are observed in such cases.

If, however, it be merely argued that engorgement of the heart may become the cause of the first symptoms of cyanosis in cases where the organ is congenitally malformed, or that a state of extreme plethora may have a tendency to retard the closure of the foramen ovale and arterial duct, the plausibility of the opinion can scarcely be denied.

the septum perfectly translucent, but without destroying the continuity of its fibrous tissue. Professor Tiedemann himself refers to a still more remarkable case of this kind in which the auricle was more than large enough to admit three fists within its dilated and thin-walled cavity.

* A heart is preserved in Guy's museum (numbered 1380), which presents a large perforation, by some considered to be the result of ulceration, in the upper part of the ventricular septum. Both the aortic and the pulmonary valves are considerably diseased, but there does not exist any remarkable degree of narrowing at the orifice of either vessel.

* Records of six cases are cited at pp. 373-4-5, and 452.

† Dr. Houston's case, p. 374.

‡ For examples, see p. 599.

§ It has been considered that in cases of extreme mitral contraction, the fossa ovalis occasionally becomes perforated in this manner — this may doubtless occur; but it is probable that, to say the least, in the majority of these instances, the open state of the foramen is in reality merely an accidental complication, the size of the congenitally patent communication becoming much increased by subsequent distension. This latter opinion has been clearly laid down by Dr. Farre, and it is certain that, in cases where the foramen ovale is perfectly closed, distension of the left auricle may proceed to an enormous degree without giving rise to perforation of the septum. In the Museum of St. George's Hospital there is a specimen of mitral contraction in which a most extraordinary dilatation of the left auricle has occurred, rendering

ON THE CAUSES OF CYANOSIS.

The malformations to which the heart is liable usually consist of lesions, which are not inconsistent with the prolongation of intra-uterine life*, but which are calculated to produce very serious embarrassment when respiration commences, and when the alterations naturally effected after birth in the circulatory apparatus begin to be established.

The paroxysms of suffocative dyspnoea, the lividity of the surface, and all the other distressing symptoms which constitute the leading features of cyanosis, were formerly attributed solely to the admixture of venous with arterial blood through the abnormal cardiac apertures which are usually discovered in these cases, and to the consequent diffusion of a dark and vitiated fluid through every part of the arterial system; but this opinion has been in great measure abandoned since the facts have been established that the symptoms in question may be present in cases where no abnormal communication whatever exists between the cavities of the heart, as well as in instances where it is utterly impossible that the smallest quantity of venous blood could have entered the arterial system: while, on the other hand, the symptoms of morbus cæruleus are not by any means necessary attendants either of patency of the cardiac septa or of permanence of the arterial duct.

The opinion at present adopted by many pathologists with regard to the cause of the symptoms of morbus cæruleus is, that they depend entirely upon delay to the passage of the blood through the lungs, resulting from the presence of a fixed impediment to the circulation.

Morgagni appears to have been the first writer who attributed the intense lividity of cyanosis to obstruction in the trunk of the pulmonary artery. Louis ascribed this symptom to some obstacle to the circulation of the blood through the veins; and MM. Bertin and Berard coincide in believing that the blue appearance of the surface in those affected with abnormal apertures in the cardiac septa depends on the stasis of the blood in the right cavities of the heart, and upon the consequent difficulty with which the venous blood circulates; and, though it be complicated almost always with the mixture of the two kinds of blood, still it is not produced by this mixture. The opinion that cyanosis is exclusively due to the circulation of venous blood through the arterial system, has been satisfactorily disproved by Dr. Stillé,† who

adduces ample evidence in proof of the conclusions, (1) that cyanosis may exist without admixture of the blood; (2) that there is not always a proportion between cyanosis and the degree in which the blood is mixed; (3) that complete admixture of the blood may take place without cyanosis; and (4) that cyanosis depends upon congestion of the general venous system from obstruction in the right side of the heart or in the pulmonary artery, impeding the return of its blood to the lungs.*

The results of my own investigations are almost entirely confirmatory of Dr. Stillé's inferences. Cases of cyanosis will very rarely occur in which the morbid anatomist will fail to discover some organic cause which acts virtually as an impediment to the pulmonary circulation. Dr. Stillé has, perhaps, referred somewhat too exclusively to the right side of the heart and the pulmonary artery as the seats of the mechanical obstacle to the circulation in these cases, for it will occasionally, though rarely, be found that the physical impediment to the circulation exists in the pulmonary tissue, or is even external to the lungs, as in Dr. Marcet's well-known case†; and, in some few instances, the cause of obstruction is situated either in the left heart or in the aorta. Still, in every case of cyanosis, there will be found to exist some cause or other which tends essentially to prevent the free and complete circulation of the blood through the lungs, to retard its passage through the venous system, and, consequently, to render the process of its arterIALIZATION slow and incomplete.‡

Dr. Stillé has also argued that obstruction to the pulmonary artery is never found without the concurrence of cyanosis. This is perfectly true as regards most of the cases of congenital narrowing of this vessel, but it does not hold good in all: for instance, where congenital imperfection of the pulmonary valves does not become seriously obstructive until late in life, the symptoms which it produces are not necessarily those

* In 54 out of 62 cases of cyanosis analysed by Dr. Stillé, the pulmonary artery was either contracted, obstructed, or impervious. In the remaining 8, the conditions presented by this vessel were fully capable of producing great venous congestion.

† Edinburgh Med. and Sur. Jour. vol. i. p. 412.

‡ As a general rule, the heart's action is greatly accelerated in cases of cyanosis depending upon contraction of the pulmonary orifice, and upon various other kinds of cardiac malformation: an arrangement by which the smallness of the quantity of blood which passes through the lungs, and becomes oxygenised there, is, in some measure, compensated by the rapidity of its transit. Still, in the majority of cases, this adaptation is not sufficiently complete either to prevent great delay to the circulation through the right cavities of the heart, or to produce the oxygenisation of the entire volume of the circulating fluid so rapidly or so effectually as is usual.

* There are some exceptions to this rule, but they do not appear to be of frequent occurrence.

† In a valuable paper on Cyanosis, in the American Journal of the Med. Sciences, vol. viii. p. 26: 1844.

of cyanosis* ; and I shall hereafter have to cite an instance in which extreme narrowing of the pulmonary orifice, the result of endocarditis occurring at the adult period, was not attended with the slightest appearance of lividity of the surface : in fact, it appears that, for the complete establishment of that generally dilated condition of the entire venous system which attends cyanosis, the obstruction to the circulation must have been present either at or before birth, when the capillary vessels are naturally more capacious than they are in the adult, or it must become confirmed previously to the full development of the body, while the entire vascular system is pliant and dilatable, and is still capable of readily adapting itself to permanent changes in the circulation.

It is, of course, well known that various kinds of obstructive disease of the heart and lungs, occurring in adult life, are liable to produce extreme internal venous congestion and considerable lividity of the surface ; but I am not acquainted with any instance in which an impediment of this kind, coming into operation subsequently to the age of twenty-five years, has produced that general and intense blueness of the entire surface which forms the characteristic feature of true cyanosis depending upon congenital malformation of the heart.

In extreme cases of original defect of the cardiac apparatus, such as those in which the ascending pulmonary trunk is obliterated or absent, the cyanosis appears to be due less to the circuitousness of the course by which the lungs are supplied with blood, than to the unnatural narrowness of the pulmonary vessels,† which are almost invariably far less capacious than in the ordinary condition ; hence the pulmonary veins and left auricle are usually more or less contracted in these cases, while the lungs are either badly developed and imperfectly expanded, or present the evidences of chronic impediment in the dilated condition of their tubes.

There are still a few pathologists who adhere to the old opinion that cyanosis

mainly depends upon the circulation of carbonised blood through the arterial system, insisting upon the fact that, in the great majority of cases of morbus ceruleus, the septa of the heart are more or less deficient. As I have already stated, it is now established that cyanosis may exist quite independently of imperfection of the cardiac partitions or of admixture of the venous and arterial blood : still, I apprehend that M. Berard and Dr. Stillé have argued somewhat too exclusively in maintaining that admixture of the two currents has no influence whatever in producing cyanosis, as it appears by no means unreasonable to conclude that, in extreme cases of this kind, where the impediment to the pulmonary circulation is great, and where a large quantity of venous blood evidently passes into the aorta at every systole of the ventricles, the discolouration of the surface, and especially the lividity of the mucous membranes, which is so frequently observed in these cases, is, in part at least, due to the dark hue and impure condition of the arterial blood. Admitting this, it must be borne in mind that the principal reason why cyanosis is generally present in cases of extensive communication between the cavities of the heart will be found in the fact that a cause of obstruction which is capable of preventing the natural closure of the septa will rarely fail to occasion permanent and severe impediment to the circulation. Where an abnormal opening is discovered in the cardiac apparatus of one who has only lately become cyanosed, or where such an aperture presents traces of recent enlargement, it must not be at once concluded that the presence or augmentation of this communication has occasioned the cyanosis ; but the first cause of the disease must be sought for, and this will generally be discovered in the form of some manifest impediment to the circulation which has determined the patency of the opening from birth, and which, having become recently aggravated, has produced the cyanosis at the same time that it has increased the size of the abnormal foramen.

Dr. Meigs adheres to the doctrine that persistence of the foramen ovale is the cause of cyanosis in infants. He observes, that, "as the occlusion of the foramen ovale is prevented by the torrent of blood flowing from the inferior vena cava, raising and keeping raised the interauricular valve, which is thin and floating, it occurred to him to place the cyanosed child on the *right* side, with the head and trunk somewhat raised, so that the interauricular septum should be maintained horizontal, and the blood contained in the left auricle should press with its whole weight on the closed valve. He has frequently seen the blue colour disappear at the very instant the infant was placed in this position, proving that the oxygenating

* In the cases of a man, *ætat.* 44, related by Dr. Craigie, and of a woman, *ætat.* 63, detailed by Dr. Fallot (cited at pp. 749-50 of this paper), the pulmonary valves were found united into a thickened ring : in the one case, capable of admitting the end of the little finger ; and in the other, merely allowing the passage of a goose-quill. There were evidences of very considerable impediment to the circulation in both of these cases, but there does not appear to have been any cyanosis in either.

† Some of the cases in which the heart has been found situated below the diaphragm, prove that, where its canal is free, great deviation in the course of the pulmonary artery is not a necessary cause of dangerous impediment to the circulation, and is not the main cause of dyspnoea and cyanosis in extreme cases of malformation.

blood only entered the arteries." Dr. Meigs adds, that he has thus saved the lives of fifty or sixty children in a hundred; whereas, as is well known, all the other means hitherto tried have failed.*

Successful as this application of Dr. Meigs's theory has evidently proved, it is certain that his explanation of the fact is by no means demonstrative. So far from patency of the foramen ovale being an essential concomitant of the blue disease, it is well known that, in a very considerable proportion of instances of cyanosis, the auricular septum is perfectly closed; and two cases are upon record† in which cyanosis was distinctly attributable to closure *ante partum* of the foramen of Botal. Wherever this communication remains too long open in a child, there must exist some cause, either of obstruction to the circulation, or of overdistension of the heart, to prevent its closure; and it is to that cause, and not simply to the patency of the auricular septum, that the cyanosis is due; otherwise it is clear that every infant would remain cyanosed until the termination of the usual period at which the foramen becomes naturally closed, and every individual whose auricular septum remained imperfect would be the subject of morbus cæruleus,—neither of which circumstances are found to obtain. The position of the body recommended by Dr. Meigs is, however, well calculated to relieve those paroxysms from which the subjects of congenital heart disease suffer, as it places nearly the whole of the voluntary muscles in a state of relaxation, thereby rendering the circulation through the extreme vessels as free as possible, and (what is of still more importance) as it facilitates the supply of arterial blood to the lungs and to the brain.

Much unnecessary discussion has been expended upon the question of whether, in cases of septal deficiency, admixture of the venous with the arterial blood occurs constantly, or only as the result of occasional causes of impediment to the pulmonary or systemic circulation. In by far the larger proportion of instances of extensive congenital malformation of the heart, and certainly in all those cases where direct communication between the cavities or arteries exists as the result of a permanently obstructed state of any of the cardiac orifices or vessels, admixture of the two currents of blood is a matter of necessary occurrence—the sole means by which the circulation is maintained at all; and here the state of the parts shews at a glance in which direction the diverted current has

been accustomed to pass. Thus, in cases of transposition of the aorta and pulmonary artery, where the ventricular septum and foramen ovale remain pervious, it is evident that blood must be continually passing directly from the right to the left ventricle, and from the left to the right auricle. In other instances, where the orifice of the pulmonary artery is closed, and the aorta arises from the right ventricle, it is apparent that the contents of the left cavities can only reach the aorta by passing from left to right through the aperture in the septum, which is always provided in these cases. So, also, in the majority of instances where the foramen ovale remains open, but protected by an efficient valve, it is clear that blood has traversed the aperture only from right to left. But in many cases of congenital malformation of the left cavities of the heart, it is evident that the current through the foramen has always been from left to right. In cases of patency of the ductus arteriosus, associated with contraction of the pulmonary orifice, the lungs, of course, receive some portion of their supply of blood through the duct from the aorta; but, where there exists a contracted or obliterated state of the aorta below the origin of the left subclavian, it not unfrequently happens that a considerable stream of blood is regularly conveyed by the duct from the pulmonary artery into the aorta. In the larger proportion of these cases it is impossible that the direction of the current should be permanently reversed; the foramen ovale is generally defended on one side by a more or less efficient valvular apparatus, and an analogous arrangement has occasionally been developed in patency of the ventricular septum and arterial duct*.

It has been argued by M. Cloquet and Dr. Willis, that when the right and left cavities of the heart are of equal and proportionate strength, no admixture of the arterial and venous blood will occur during their contractions, even although there may exist free communications between the vessels, or through the septa. A few cases have been observed which go far to substantiate the general correctness of this doctrine; but the instances of extensive malformation of the heart are so few in which the two sets of cavities are exactly proportioned to each other, or in which the whole of the cardiac outlets are perfectly free from obstruction, that the rule is by no means one that admits of being either extensively or frequently applied.

It is now allowed by the majority of pathologists that, in itself, patency of the foramen ovale (where the opening, although

* Report of the Academy of Sciences, Paris, June 2nd, 1845, and Dublin Med. Press, vol. xiv. p. 18.

† Cases by Vieussens and Mr. Ebenezer Smith, p. 967.

* See cases observed by Richerand, p. 1087, and by the author, p. 1090.

free, is guarded by an efficient valve) is by no means necessarily attended with cyanosis; and it is probable that, where this exists as the principal defect in the cardiac apparatus, the passage of blood through the aperture is ordinarily by no means large, and that the transit of a full stream from one auricle to the other may be merely an occasional occurrence for the purpose of relieving distension under circumstances of accidental engorgement or obstruction. Still, it is doubtful whether we can fully admit the opinion of Bichat and Louis, that, "in examples of septal deficiency, or at least in cases of open foramen ovale, no admixture of venous with arterial blood occurs except under circumstances of obstruction;" for, as we have already seen, these deficiencies are seldom, if ever, present where there is not also discoverable some cause of permanent impediment to the circulation, which probably at all times occasions a certain degree of comminglement of the currents, although that mixture may not be sufficient to produce serious vitiation of the arterial blood. It is generally found that, when the subjects of the minor degrees of septal deficiency become affected either with pulmonary disease, or with any causes of delay to the systemic circulation, the dyspnoea and lividity of the countenance are greater, and the consummation of the fatal issue is usually more rapid than might have been expected from the extent of the recent pulmonary disease, or from the severity of the other superadded causes of obstruction, had these existed alone—facts which go far to corroborate the belief, that in cases of permanence of the septal openings there generally exists some fixed impediment to the circulation, although that impediment may not be sufficient to produce any visible ill consequences while the heart is tranquil, and the lungs remain free from congestion or other superadded lesion.

It is a demonstrable fact, that there may constantly occur considerable commixture of venous with arterial blood, and yet the individuals may be well nourished and active, and may arrive at maturity without ordinarily presenting sufficient blueness of the surface to attract the attention even of a medical man.

In other instances of this kind the patients may continue for many years to enjoy tolerable health, being only occasionally liable to more or less lividity of the surface, either with or without a certain amount of dyspnoea, occurring in consequence of extraordinary exertion, repletion, or transient causes of pulmonary obstruction. Here the intensity of the cyanosis can never be taken as an indication of the degree of abnormal communication which exists between the cavities of the heart. Louis has very justly

remarked, that "the change of colour is never found to be in proportion to the freedom of the communication;"—for it is, of course, evident that, wherever obstruction of the outlets exists, the more freely the cavities communicate the less will the circulation be impeded.

In either of the above sets of cases the symptoms of *morbus cæruleus* may become permanently developed in their greatest intensity whenever additional and permanent obstruction occurs to the passage of the blood through the lungs, or immediately the muscular power of the heart becomes seriously impaired. Instances of considerable malformation of the heart occasionally occur in which cyanosis does not appear until the age of puberty, and others have been observed where the lividity of the surface, which had occasionally presented itself from birth, did not become permanent until a rather advanced period of life. In the former of this class of instances the increased impediment is probably due to a want of that development of the pulmonary apparatus which usually takes place at the approach of adult age; in the others it may be traced to additional narrowing or other consequences of acquired disease in the malformed structures, causes which are probably further aggravated by plethora, and by a certain amount of deterioration of the lungs.

Allusion has been already made to the influence of contraction of the foramen ovale and arterial duct in producing the first symptoms of *morbus cæruleus* in children who are the subjects of congenital cardiac defect; it does not usually appear that such defect necessarily interferes with the health of the infant so long as its system is freely supplied with placental blood; but, so soon as respiration and the organic changes which accompany the commencement of that process become established, the malformed heart fails to perform with facility functions for which its structure very imperfectly adapts it, and the evidences of severe obstruction are quickly developed; these are, in all probability, also aggravated by the increased bulk of the fluids, which is produced when the process of assimilation commences. The opinion advanced by M. Billard, that a perfectly oxygenated blood is not necessary to the new-born foetus, taken in conjunction with the fact that the infant's body has usually a slightly livid appearance until the funis is secured and respiration is fully established, has been regarded as a sufficient explanation of the circumstance that several hours or days frequently elapse after birth before the symptoms of the blue disease present themselves in those children whose hearts are structurally imperfect. I am not, however, aware of any fact which

proves that the blood supplied to the foetus during intra-uterine life is less completely oxygenised than that which circulates through the arteries of the mother; and it is evident that the slight discolouration of the surface alluded to above is merely the transient result of the embarrassment and delay which the circulation necessarily sustains at the time when the infant is gasping in its first efforts to inspire.

[To be continued.]

ON A
CASE OF AMENORRHŒA,

PERSISTING IN A FEMALE 29 OR 30 YEARS
OF AGE.

BY WILLIAM CAMPS, M.D., Edin.

Physician to the Farringdon General Dispensary.

DURING the autumn of last year, 1846, I was in attendance upon a respectable married tradesman residing in the West End of London, and in the course of this patient's indisposition, which was of some considerable duration, his wife consulted me, and placed herself under my charge, for a slight attack of Influenza, accompanied with some degree of Tonsillitis, which were at that time extremely prevalent in the metropolis.

These were affections simple in their nature, and not uncommon or unfrequent in their occurrence, and were relieved and successfully treated by the usual remedies appropriate to such disorders; and appear to have no direct relation to the subject to which this short paper is intended to refer. At my first attendance upon this lady, in addition to the necessary investigation connected with the attack of Influenza and Tonsillitis which I was called in to treat, the following dialogue took place between us, with a view, on my own part, to ascertain the customary state or habit of my patient, with reference to the regular performance of those functions peculiar and common to the human female. I said, "Pray are you poorly or unwell about once a month?" She replied, "No, I am not." Supposing by this reply that she only meant that she was not regular, I repeated my question, "Pray are you unwell once a month as other ladies are?" and, to my surprise, she said, "I never am poorly; I perfectly understand what you mean, but I never

am so, and I never have been so." On expressing my surprise to her, at learning this peculiarity, I inquired again her age, and how long she had been married. She replied, "I am now in my thirtieth year, and I have been a wife between four and five years, but have never had children, or considered myself pregnant." She told me that, when nineteen or twenty years of age, her mother, not being satisfied at the non-appearance of the monthly discharge, consulted the family medical attendant about her; but as in other respects she was at that time in a good state of health, he advised that nothing should be done or attempted. She further told me, that very frequently she was not perfectly contented and satisfied with her state, knowing that, to use her own words, "she was not in this respect quite like other females." At times, but she thinks not regularly or periodically, she suffers from considerable pain in the lower part of the abdomen, and in the back and loins, unaccompanied with any discharge whatever; but otherwise, and when not thus affected, her general health has always been remarkably good.

I have had repeated opportunities of seeing this lady during the last six months, and, with the exception of the Influenza and Tonsillitis, of which I have already spoken, I know her to have been in the enjoyment of good health, and I have every reason to believe in her statement respecting her peculiarity. She is of middle stature; fair complexion; of what is usually described as a sanguine temperament; not pale, emaciated, or anæmic in appearance, but healthy-looking, and rather attractive and pleasing in her person and manners; her voice is soft and feminine; there is no hair on the upper lip, and the mammæ, although not large and full, are not altogether undeveloped. To all appearance there is nothing of the *man* or the *boy* in her *physique* or *morale*, which are entirely those of the *woman*. From the husband I learn that the conjugal rites are duly performed.

I have never before met with a similar case of Amenorrhœa persisting to such a period of life; nor do I find that any of my medical friends to whom I have already mentioned this case have had such come beneath their

notice; neither do I meet with any such cases recorded in the English or Continental medical journals.

So far as I know, I believe the present case to be unique; therefore I have the greater pleasure in forwarding this account of it for insertion in the columns of the LONDON MEDICAL GAZETTE. It will be observed, that I was not consulted by this patient on account of the non-appearance of the menses, but became informed of it when treating her for other and simpler affections, from which she very soon recovered; therefore I had no opportunity of ascertaining by examination, either with the finger or the eye, the state or condition of the genital organs.

50, Green Street, Grosvenor Square,
Feb. 16, 1847.

SURGICAL OPERATIONS

PERFORMED AT THE NORTHERN HOSPITAL,
LIVERPOOL, UNDER THE INFLUENCE
OF THE ETHER VAPOUR.

Communicated by

T. B. GILDERSLEEVES, Esq. M.R.C.S.E.

House-Surgeon to the Institution.

ON Thursday, Jan. 28th, the first capital operation was performed by Mr. Stubbs, the senior surgeon of the Institution. It was an amputation of the thigh for chronic disease of the knee-joint occurring in the person of a young man named M'Pherson. He was 18 years of age, and had suffered from the complaint four months. His appearance seemed to indicate a strumous habit, although, according to his own statement, his general health had been always good. He entered the hospital on the 18th of December, rather more than two months after the first attack, and he then appeared to suffer greatly. The knee was flexed, and the slightest movement produced acute pain. A large abscess existed in the thigh, which was discharging much sanious, unhealthy pus. He suffered from night-sweats and hectic, and was very emaciated. He was put on full diet, and eight ounces of wine daily. Quinine and opium were also given, but as the symptoms became worse instead of better, it was determined, on the 28th of January, to amputate the limb.

He was brought into the operating

theatre on his bed, and lying upon his side, it being found impossible to move him without producing the most acute suffering. The inhalation of ether was commenced immediately, and in about four minutes he seemed quite under its influence. The pulse, which was very quick and feeble at first, decreased in volume, so as to become almost imperceptible, and the patient appeared to sink into a state of sleep. The limb was now raised without any apparent consciousness, and, on being turned upon his back, and placed in position, the operation was commenced. On making the flap, a slight moan escaped, and after sawing through the femur, the inhalation was discontinued altogether. Ammonia was applied to the nostrils, and a small quantity of brandy and water given. The patient rallied in about five minutes, and experienced a return of consciousness before all the vessels were secured. On being questioned as to whether he had felt the pain, he replied, that he had "felt nothing during the whole time, but fancied himself flying through the air." On examining the limb afterwards, the heads of the bones were found carious, and the cartilages had been absorbed; the shaft of the femur, also, for about two inches immediately above the condyles, was found necrosed, and the bone thickened above and below by a new deposit of osseous matter. In this case the ether was considered by all the gentlemen present to have been most successfully applied.

CASE II.—Patrick Lynch, æt. 60, was admitted a patient of the hospital Jan. 22d, and placed under the care of Mr. Ellis Jones. He was a railway labourer, and had received a compound fracture of the leg two days previous, whilst working on the Chester and Holyhead line. The bones were fractured about three inches above the ankle-joint obliquely, and the upper portion of the tibia protruded. The soft parts were much bruised, and there was great spasmodic action of the muscles. The limb was placed in Liston's leg-splint, and water-dressing, with oiled silk, applied over the wound; great difficulty was experienced in keeping the ends of the bone in apposition. The patient was ordered opium to allay the pain and spasm, and afterwards wine, quinine, and other stimu-

lants, to support the system; a great deal of suppuration ensued, and from sloughing of the parts about the wound, the bone became exposed to the extent of two inches. The patient's general health became affected by the drain upon the system. The pulse was small and feeble; the tongue dry, and coated with a brown fur. The integument of the leg, extending from the injured part to near the knee, became dusky in appearance, and from the patient's age, coupled with these symptoms, mortification was anticipated. A consultation was held on Thursday, the 11th of January, and it was determined to amputate above the knee.

He was placed upon the operating table, and the vapour of ether administered. The mouth-piece did not fit closely, owing to the cheeks being hollow and sunken. His pulse became accelerated, and the pupil somewhat dilated. He threw his arms about, and was evidently a good deal excited. At this time the operation was commenced: it was the circular. During the first incision, and also whilst dissecting the integument, the patient seemed unconscious of suffering; but, on the second use of the knife, in dividing the muscles, he called out rather lustily, and appeared to suffer pain. He soon regained entire consciousness; and, upon being asked what he had felt, stated, that he had experienced but little pain, and that he had heard music in his ears during the whole period.

In this operation *partial* failure was at any rate evident. By some who were present it was accounted for by the imperfect manner in which he inhaled the ether; and by others who thought that the inhalation was not continued long enough.

CASE III.—On Friday, Feb. 12th, amputation of the arm was performed by Mr. Bainbrigge on a labouring man named Jones, 56 years of age. The patient was admitted into the hospital about a week before, labouring under chronic disease of the wrist-joint of ten or twelve years' standing. He is a thin spare man, and his countenance expressed much anxiety and suffering. On consultation, it was determined that amputation was necessary.

The poor fellow had such a dread of pain, and his mind became so terrified

at the thought of losing his hand, that considerable difficulty was experienced in persuading him to submit to the operation. It was found impossible to convince him of the power to render him insensible to pain by the employment of the vapour of ether; and only in strict accordance with a promise given to him that he should not be operated upon unless he was wholly unconscious, was he induced to consent to the operation.

Being placed on a chair in the operating theatre, the vapour of ether was administered, under the management of Dr. Turnbull. After inhaling it for a few minutes, his pulse rapidly rose, the pupils of his eyes were dilated, and he became lethargic.

On removing the inhaler from his mouth, he rallied somewhat, and appeared evidently excited, and said, with great courage, "You may now do what you like; I have great confidence in you, and I will place myself in your hands." At this moment the limb was amputated by Mr. Bainbrigge, with great skill and celerity, the operation occupying only a few seconds. The patient gave no *verbal* indications of suffering pain until a needle was employed to bring the lips of the wound together.

When placed in bed, and questioned by Dr. Sutherland whether he felt pain during the operation, he said, "I know nothing about cutting the flesh; I had no pain, but I *heard* the grating of the saw." Several of the bystanders who had watched his countenance seemed to think, from the knitting of the brow, that he experienced pain at the moment; but, from the man's own simple statement, it appears he did not.

Whatever may have been the state of the patient's feelings, it would be difficult to arrive at any exact conclusion upon them during the present very imperfect state of our knowledge on this most interesting subject. The extreme terror existing in the man's mind, the confusion necessarily incidental to the crowded state of the theatre, and the physiological obscurity which still surrounds the question as to what organs may be active whilst others are wholly dormant (the effects being varied in different constitutions; producing laughter in one, talkativeness in another, &c.; pain in all cases

being absent), render the present case one from which no positive inference can be drawn.

Some minor operations,—such as the amputation of several toes, evulsion of the great-toe nail, the laying open of extensive sinuses, &c.—have been performed by Messrs. Gildersleeves and W. Haines, the house-surgeons. In every one of these cases the ether has answered most satisfactorily.

ON THE
USE OF DIGITALIS IN THE TREAT-
MENT OF EPILEPSY.

BY EDMUND SHARKEY, M.D.

St. Helier's, Jersey.

HAVING not long ago communicated to you the results of a few cases of epilepsy, in which I had administered digitalis in large doses, according to the plan which I have advocated in my work on the subject, I will now relate one in which the same medicine administered in more moderate doses, but for some continuance, was also successful. In the work alluded to, I have mentioned that small doses had been tried but with little success by Withering and Currie; the former, however, seems to have limited its efficacy to cases of epilepsy depending on effusion, while the latter* gives his experience of it in these words:—"He administered it in three cases; on the first taking of it, the fits in all of them returned at longer intervals, and were thought not to be so violent, but after it had been used for some time, the fits became as violent and frequent as they had ever been, and the medicine was laid aside." The case I am about to detail possesses, it seems to me, peculiar interest, occurring as it did in the brother of Case VII. there (p. 22) recorded, who had been cured by the large dose of the medicine: the coincidence of a second member of the family having contracted a disease, known to be often hereditary, would lead to a probable suspicion that it was a case of that class, and therefore more unmanageable than the casual form, and is therefore the more encouraging, as it would seem to shew that even in this case the medicine is efficacious. The

case, No. VII., which occurred in the elder brother, had continued well up to the time of publication—viz. 10 years; at the time when I was consulted about the younger his immunity from the disease had continued for 15 years. The subject of the present history had, at a period so far back, been also under the care of my late father, and had continued also free until Nov. 1844. The account given me of him, Oct. 1845, was this: "Since then" (viz. Nov. 1844), "he has had several attacks, and has been under the treatment of an eminent physician here (Cork), who administered turpentine, and some other medicines, which reduced him, from a very full plethoric person, almost to a mere skeleton, without deriving any benefit whatever in his particular affection. The attack commences by an affection of the left arm, the muscles of which are sometimes much contracted. He lives a very temperate life, and latterly takes a great deal of exercise by walking several miles daily." I prescribed an ounce of the Infus. Digit. purp. of the Pharmacopœia to be taken every night. This was continued until the February following, when I received a letter stating "that the treatment which I had recommended in October was commenced immediately, and had hitherto proved most effectual, no attack having taken place since. He took, at first, two bottles per week, and after some time, finding a dimness of sight produced, he reduced it to one, at which rate he now (Feb. 7th) continues; finding milk (advised instead of tea), too heavy, he has adopted cocoa. His appetite is good, he sleeps soundly, and takes a great deal of exercise." I now directed him to discontinue the Infus. Digital. unless a threatening of relapse should occur, to shave his head once a week, and use a tepid douche to that part. If his bowels should be torpidly disposed, to take Aloes, gr. ij.; Ext. Gent. gr. j.; Quin. Sulp. gr. ss. half an hour before dinner daily.

Aug. 30th, 1846.—I this day received a letter, stating that the treatment had hitherto perfectly succeeded, the disease not having recurred.

Dr. Corrigan also (Dub. Hosp. Gazette, 1845), has given some account of his successful trials of this medicine in the same way.

* Mem. Med. Soc. Lond. Vol. iv.

**REMOVAL OF THE GREAT TOE,
WITH PART OF THE METATARSAL BONE,
UNDER THE INFLUENCE OF ETHER.
By T. HERBERT BARKER, M.B. M.R.C.S.**

EMMA RAWLINS, æt. 23, of Cople, near Bedford, had been labouring under intractable strumous disease of the great toe for the last five years, involving the phalanges and part of the metatarsal bone, and was anxious to have the disease removed by operation. Desirous of giving her the benefit of inhaling the vapour of ether, I procured the apparatus constructed under the directions of Dr. Boott and Mr. James Robinson, and sold by Mr. Hooper, of Pall Mall, London, and yesterday removed the diseased parts in the following manner, with the kind assistance of Mr. Hurst, and in the presence of Messrs. C. W. Hyne, W. Bailey, Anthony, Birch, Cox, and Ravenscroft.

Having succeeded in about four minutes in getting her thoroughly under the influence of the vapour, a flap of good size was made with a scalpel on the inner side of the foot, the metatarsal bone being laid bare to beyond the extent of the disease. A strong bistoury was then passed through the space between the metatarsal bones of the first and second toe, in close contact with the former, and brought out anteriorly; the flexor and extensor tendons were divided, and the metatarsal bone nipped through with Liston's forceps: the exposed surfaces were sponged, and the flap secured by three points of interrupted suture.

During the operation, which lasted but a short time, the supply of vapour was cut off by means of the stop-cock. She did not in the least shrink from the knife, nor did she manifest in any way the slightest sign or expression of pain. On regaining her consciousness, she inquired when the operation would commence, and on being told that it was all over, stated that she had been asleep and dreaming.

The testimony of so many operators has already been recorded of the efficacy of the inhaled vapour in completely deadening the sensibility of the system during severe and protracted operations, that there cannot be a doubt that it is one of the greatest

discoveries of the age, productive as that age has been of great discoveries.

I thought it desirable that my patient should be previously tutored in the process of inhaling, and for that purpose induced her to inhale the vapour the day before the operation, which she did to the entire satisfaction of both of us. This appears to be a matter of some importance, and likely to contribute to the success of the process, for there are several precautions which are better to be thus explained beforehand, and the patient will be less likely to be affected with unnecessary timidity at the time of the operation.

The points which appear to require particular attention are—

1. To instruct the patient beforehand in the process of inhaling; and in the great majority of cases this will be practicable.

2. To give charge of the inhaling apparatus to a trustworthy assistant, who should keep the mouth pad in firm contact with the lips.

3. To allow two or three inspirations to be made before removing the small stopper, and applying the nasal spring, otherwise the full volume of the vapour will be likely to excite coughing and a sense of suffocation.

4. To cut off the supply of vapour for a time, by turning the stop-cock, and removing the nasal nipper, when deep insensibility has been produced.

The morbid effects of the vapour of ether have yet to be made out, and good service will be rendered to the profession and humanity by any one who will investigate the precise effects of this powerful agent when administered in cases complicated with pulmonary, cardiac, or cerebral mischief. Some affections of the heart, and a strong predisposition to cerebral disease, will probably be found to be the morbid conditions which more particularly contra-indicate its employment.

Bedford, Feb. 1847.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.

We have been requested to announce that the annual dinner of this Society is appointed to take place on Saturday, the 24th of April.

FATAL EFFECTS OF ETHER VAPOUR IN A CASE OF LITHOTOMY.

By ROGER NUNN, Esq.

Surgeon to the Colchester and Essex Hospital.

At a time when the attention of both the medical profession and the public is being called to the influence of ethereal vapour as an agent in deadening pain during surgical operations, you may probably consider the accompanying case of sufficient interest to be admitted into your columns.

On Friday, the 12th inst., I operated upon Thomas Herbert, *ætat.* 52, the subject of stone in the bladder, in the presence of most of the medical gentlemen of the town and neighbourhood. The ether was exhibited by my colleague, Dr. Williams, who considered the patient to be sufficiently under its influence after having inhaled it seven or eight minutes, at the end of which time I commenced the operation. There was neither difficulty nor loss of time in cutting into the bladder; but, having done so, some little delay occurred in grasping the stone, which was small, very flat, and lying in the posterior part of the bladder; the delay was also increased by the extremely relaxed state of the bladder itself which seemed to fall in folds on the forceps, and to cover the stone. The time occupied from the commencement of the operation to the period when the man was unbound, was ten minutes, during which the ether was administered at intervals. The patient was placed fully under its influence, and the breathing first became heavy, and ultimately stertorous. He recovered, however, from its effects after a short time, and continued in a quiet passive state, but without decided reaction, for 24 hours. At this period he had a chill, which lasted for nearly twenty minutes. Mr. Taylor (the house-surgeon) immediately gave him two ounces of brandy, with an equal quantity of water, after which the patient remained in a dozing state till 8 o'clock P.M., when the house-surgeon considered it necessary to send for me, as a state of complete prostration or collapse had ensued. I ordered small quantities of brandy and water (equal parts), with arrow-root, at intervals, wrapped him

in hot blankets, placed hot bottles in the bed, &c. This treatment was kept up till 9 o'clock the following morning, when ammonia was given alternately with the before-mentioned stimulus. The patient seemed incoherent from 8 o'clock P.M. of Saturday till 9 A.M. of the following day, when symptoms of slight reaction appeared. At a consultation of the medical staff, which was held at the time, it was determined that the same treatment should be continued (modified according to circumstances), and that, in addition, a stimulating injection should be administered. (The effects of the injection were to increase slightly the frequency of the heart's pulsation, but without exciting his nervous energies). From this time he gradually sank, and died at 5 o'clock P.M., being sensible to the last.

I should here mention that the small vessels which are necessarily divided in making the first incision shewed much inclination to bleed, owing, I imagine, to their want of contractile power. I therefore, to prevent any unnecessary hæmorrhage, secured them immediately after the patient was put to bed, so that he did not lose much blood.

Post-mortem (67 hours after death).

—Membranous congestion of the brain, but no effusion; brain firm; lungs permeable throughout, anteriorly exsanguineous, posteriorly engorged; heart flaccid, of a natural size, and nearly empty; the left kidney pale; the right, slightly congested. The bladder and the adjoining parts presented the usual aspect after an operation.

I would mention that the blood throughout the whole vascular system was in a perfectly fluid state.

It is not my intention or inclination to attribute the loss of my patient wholly to the influence of the ether which was administered in this case, nor hastily to decry its use under all circumstances connected with surgical operations; but still I feel called upon to bring before the notice of my medical brethren the effects which resulted from its exhibition in this instance, that the profession may judge, from the recital of an unsuccessful case, how far it may be considered safe to employ ether generally as a means of prevent-

ing the pain otherwise inseparable from physical lesion. The suffused eye, livid lips, and stertorous breathing, accompanied, first, by convulsive struggles, and next by a sudden cessation of all motion, are often indicative of the effects of the vapour; and these were not altogether absent in the present instance: still, I felt myself justified in employing it, from the published accounts of many successful cases, and the sanction of my colleagues and numerous friends around me. In prosecuting the operation, there was nothing peculiar to attract my attention, or to lead me to consider the patient's physical condition different from that of those on whom I had before operated, until I had reached the bladder, when I can but attribute the difficulty in seizing the stone to the apparently collapsed state of that viscus which had fallen in folds over the calculus, and so prevented its being grasped by the forceps. I must not, however, omit to mention the fact that the patient expressed no signs of suffering during the operation. Thus far, therefore, it may be said the ether fulfilled its intended offices; but I think another question is involved, viz. whether the artificial means thus employed may not produce very serious depressing effects on the nervous system, depriving a patient of that reactive power so necessary to the reparative process. Has not a patient, after the administration of ether, a double shock to overcome—that produced by the vapour superadded to that of the operation itself? Does not the history of the post-mortem examination bear out the suspicion of the depressing influence of this inhalation?—*positively*, from the still fluid state of the blood (although the body was not opened for 67 hours after death), and from the flaccid state of the heart; *negatively*, from the fact that the inspection detected no indications of violence done to the parts that could explain the rapid dissolution which ensued, and that there was no evidence of nature having made the slightest effort towards local reparation. Pain is doubtless our great safeguard under ordinary circumstances; but for it we should be hourly falling into danger; and I am inclined to believe that pain should be considered as a healthy indication, and an *essential* concomitant with surgical operations, and that it is

amply compensated by the effects it produces on the system as the natural incentive to reparative action.

I trust that the publication of this unsuccessful case may lead to the publicity of many others which have occurred, so that the profession may not be led away by the erroneous supposition that the prevention of pain is so vital a desideratum in operative surgery.

Colchester, Feb. 1847.

. Operators have hitherto fallen into the error of looking only to one side of the question. The profession is indebted to Mr. Nunn for placing in so strong a light the danger which may occasionally arise from the use of ether vapour. We have hitherto had a run of successful cases: it is now time that our correspondents should pause in their records of successful cases, and look to the possible danger.

WORMS A CAUSE OF CATALEPSY.

A WOMAN, æt. 26, had been confined for a period of eight years in a lunatic asylum in consequence of fits of catalepsy which sometimes lasted for two or three weeks together. Various remedial measures had been employed without benefit, when one day after a dose of rhubarb and calomel she vomited a foreign body, which from the description appeared to be a lumbricus worm. After this there was no return of the fits; the woman became cheerful and was perfectly restored to health.

THE PHILOSOPHER'S STONE THE SUBJECT OF A PATENT IN THE FOURTEENTH CENTURY.

IN a work lately published on the law of patents, it is stated "that in the time of Edward III. some alchemists persuaded the King that a philosopher's stone might be made, that the King granted a commission to two friars and two aldermen to inquire if it was feasible, who certified that it was, and that the King granted to the two aldermen a patent of privilege that they and their assigns should have the sole making of the philosopher's stone." This grant is believed to be the first, or at least the first patent privilege granted for any invention of which mention is made either in law books or chronicles, and is curious as showing the state of science in the fourteenth century.

MEDICAL GAZETTE.

FRIDAY, MARCH 5, 1847.

THERE are three classes of physicians connected with the College of Physicians—the Fellows, the intra-urban Licentiates, and the extra-urban Licentiates. The Fellows are the only Members of the College; the intra-urban Licentiates are permissi, or persons permitted to practise by the bye-laws of the College within the limits of its jurisdiction: that is to say, in London, or within seven miles thereof; and the extra-urban Licentiates are persons authorised to practise by the President and elects “according to the statutes of the kingdom,” and may practise anywhere except within the limits of the jurisdiction of the College, namely, the metropolis. To acquire this privilege, they must obtain a permission from the President, after examination by the Censor, and other formalities, as prescribed by the bye-laws.

If the Graduates and Licentiates of Oxford, Cambridge, and Durham, be excepted, these are the only persons legally qualified to practise as *physicians* in England and Wales. The Graduate of Trinity College, Dublin, has no legal right until admitted *ad eundem* at one of the English Universities; and the Graduate of a Scottish University is, according to the law of England, in the position of a graduate of a foreign university. He is a doctor of medicine, but his degree confers no municipal rights, nor can it authorize him to practise as a physician. The English law discriminates between the physician and a doctor of medicine. We believe there is no doubt whatever on this point: it has been repeatedly affirmed in the English courts of law.

It is true that some recent Acts of Parliament have specially provided that certain acts done by Scottish Graduates shall be legal, and have placed them on the same footing as the surgeons and apothecaries of Great Britain; but the 14 and 15 Henry VIII. c. 5, (still unrepealed), enacts, that no person shall practise or exercise in physic throughout England unless he has been examined by the President and three of the elects of the College of Physicians, and “have letters testimonial of their approving and examination, except he be Graduate of Oxford and Cambridge, which hath accomplished all things for his form without any grace.” By the same Act, the present charter of the College was established; and it cannot therefore be revoked without the consent of Parliament. The College, feeling the necessity of making certain changes in its constitution, has addressed a memorial to Sir G. Grey, to obtain the sanction of Government for the repeal of the statute, and that a new charter may be granted them.

There is a numerous and highly respectable body of physicians practising in the provinces independently of the College jurisdiction, and with the full confidence of the public, to whom the objects of the College ought to be of some interest, inasmuch as it seeks the aid of the government to extend its jurisdiction over the whole of England and Wales, and transform itself from a *quasi* civic guild to a National institute. It proposes to accomplish this by obtaining fresh powers, under a new charter, so that, in the first place, it shall be entitled the “Royal College of Physicians of England;” and for the purpose of becoming what its new title would really imply, it proposes to incorporate the physicians of the provinces upon certain terms. All Graduates of

British universities of a certain standing (that is to say, who have graduated previously to 1842, after regular examination, and are thirty years of age), will be admitted on producing testimonials satisfactory to the Censor, and on paying a certain fee, without examination, if they apply for admission within one year after the grant of the charter; and all extra-urban Licentiates not possessing the degree of M.D. from a British university, after submitting to such examination as the Censors shall think fit.

Has the College ascertained the sentiments of the great body of Scottish Graduates, and obtained their concurrence in making this proposition? We should hardly think this probable. It does not appear to us that any advantage would accrue to them individually or collectively by the proposed incorporation; it will add nothing to their reputation or position; it will take money from their purses to enrich the impoverished treasury of the College, should the Censors, in the exercise of their authority, admit them to the honour of incorporation; and it will afford the applicants for the honour a chance of being rejected. They who already hold an honourable position will not think it worth their while to seek the doubtful distinction thus offered to them; and the principal applicants probably will be those who have either a worn-out reputation, or have a reputation to make, and to whom the title of Member of the College may afford a useful means of advancing their interests. Those of the body who have already graduated at a British university will not approve of the principle that their compliance with the law of England, and the expenditure of time and money incurred by them in preparing for the examination required by the 14th and 15th of Henry VIII., in journeying to London to undergo the examination, and in the payment of the necessary

fees, shall be considered as useless, and their acquired rights of no value; while they who have not graduated will naturally object to the principle which casts a slur upon their title to practise their profession, and elevates the Scotch graduate at their expense. It is obvious that as they have been already examined and approved according to law respecting their qualifications to practise as physicians, they are *fit* to practise as such; and are therefore proper persons to be admitted members of the College without any further question as to their qualifications.

We believe it is objected that by the indiscriminate admission of the extra-urban Licentiates certain persons would obtain a standing in the College to which their conduct does not entitle them, inasmuch as since receiving the license they have practised as apothecaries. But is it not notorious that numbers of Scottish graduates also practise as apothecaries? Then why make this invidious distinction? and especially why involve the whole body of extra-urban Licentiates in the degradation and punishment of the few? The persons against whom the proposition is specially directed may or may not have practised as alleged. Has a due inquiry been made by the College in relation to this point, and if so, how many of the body have been guilty of the offence, if offence it be? Doubtless, this question will be pressed upon the College, and a frank and full statement of *facts* required. Then, if it be established that a certain number have been guilty of this breach of etiquette, (for it amounts only to this, inasmuch as every physician has a *legal* right to compound his own medicines, and that it ought to disqualify them for admission into the College without examination)—on what grounds, it will be asked, can this test be applied to those who have never been guilty of practising as apothecaries, but have maintained the

dignity of their position, and added to the literature and reputation of English medical science?

On the other hand, it may be fairly inquired, whether the Fellows and intra-urban Licentiates are so free as a body from taint that they may assume for themselves an immaculate character. It is more than a mere rumour that there are both Fellows and Licentiates who have practised both surgery and pharmacy. Hence the test which the College would apply to the extra-urban Licentiates as a body will probably be shown to be equally applicable to the Fellows: and as the terms on which the extra-urban Licentiates should be admitted to practice have always rested entirely on the decision of the President and Elects, it will become a question whether these high authorities have not failed in the solemn duty entrusted to them, and are, therefore, *ipso facto*, more disqualified for membership than those whom they would exclude. It is manifest that to give letters testimonial of examination and approval to persons utterly unqualified to practise as physicians, is an infinitely more serious offence against society and against the dignity of the profession, than if the examiners compounded the remedies which as physicians they had themselves prescribed.

Supposing it to be proved that the President and Elects have thus failed in their duty to the public and profession, why have the commonalty of the College permitted it? It will be no answer to say that they *could* not, inasmuch as the Elects have for some time assimilated their curriculum and mode of examination to those of the censors, and this in consequence of the remonstrances of provincial Licentiates who have no other concern with the college than a regard for its honour. But it may be inquired whether a similar laxity of discipline did not

formerly characterise the Censors' board, (against which certainly no imputation can now be brought); and this being established, the principle of a second examination ought fairly to be applied to those metropolitan Licentiates who were admitted during the good old easy times. We leave out of consideration altogether the important circumstance that, in former years, certain of the Scottish Universities were not free from this same laxity of discipline; and knowing how many of the body are distinguished for their honourable conduct and high attainments, we should think it an injustice to refer further to this subject. Nor need any reference be made to the fact that a new charter will confer rights on the intra-urban Licentiates not now enjoyed by them.

The simple truth is, that the College cannot attain the objects at which it aims by any retrospective legislation. It should open wide its portals, without demand of fee, to all *physicians* now practising in England and Wales, whether by courtesy or by right, and whether British or Foreign graduates, provided the license or diploma has been obtained by *bonâ fide* residence and examination. The notoriously venal character of some German Universities would justify the closest scrutiny of all diplomas granted by them. Those who entered the College would then place themselves under its jurisdiction, and submit their conduct to its control. If that conduct should, after incorporation, be in contravention of the written laws of the College; and if the offender, after due trial by his peers, be found guilty, let him be punished accordingly, whether by fine, suspension, degradation, or expulsion; but a penal law, retrospective in its action, and indiscriminate in its application, ought not to be, and surely will not be, proposed by the Government or sanctioned by the Legislature.

Reviews.

A Tabular View of the Physical Signs and Diagnosis of the Diseases of the Lungs; with a Synopsis of the Signs which occur in each disease. By JAMES TURNBULL, M.D., Physician to the Liverpool Northern Hospital. Chart, with explanatory letter press. London: Churchill. No date.

DR. TURNBULL'S table affords, at a single view, many of the leading facts with which it is necessary that the student should become acquainted while making himself master of the arts of auscultation and percussion; but still we are unwilling to see attempts made to compress the principles of a great science into the narrow compass of a scanty tabular form. The systems of auscultation and percussion are still comparatively new, and diagnosis by these means is still fraught with innumerable uncertainties and sources of fallacy. The great variety of causes upon which it is known that a large proportion of the physical signs may at various times depend; the remarkable manner by which the signs may become modified by various accidental circumstances; the sources of difficulty presented by the indications themselves, and the causes of fallacy which are most liable to result from defect either in the hearing or the reasoning of the auscultator, altogether render the subject one of so complicated a nature, that, at present, we cannot afford any very high meed of praise to any work on auscultation which does not append to the leading facts of the science, a careful review of the fallacies with which it is beset. The great fault of Dr. Turnbull's description is therefore its extreme brevity; the chart would have proved a very useful addition to a complete work on pulmonary auscultation; but in its present condition, it must, we fear, prove a very imperfect guide. We also object to the separation of pulmonary from cardiac auscultation; many of the most intricate points in the diagnosis of thoracic disease are those in which it is doubtful whether the chief physical signs depend upon disease of the respiratory organs, or lesion of the cardiac appa-

ratus, or whether they are due to a complication of both, and we are quite at a loss to understand how any definite line can be drawn between the diagnosis of cardiac and pulmonary diseases; seeing that, in a large proportion of cases, the true nature of pulmonary lesions cannot be ascertained until the condition of the heart has been carefully and successfully investigated.

Observations on the History of the Cure of Popliteal Aneurism, by Compression. By THE EDITOR OF THE DUBLIN QUARTERLY JOURNAL OF MEDICINE. (August, 1846.) With Cases by the late Charles H. TODD, Professor of Anatomy and Surgery in the Royal College of Surgeons in Ireland; Sir PHILIP CRAMPTON, Bt.; J. W. CUSACK, V.P. R.C.S.; R. ADAMS, A.M. M.D.; and Professor HARRISON.

THE article before us contains several interesting additional cases, illustrative of the new operation for the cure of femoral and popliteal aneurism, and is especially intended to establish the claims of the late Professor Charles Todd, of Dublin, as the first surgeon by whom this plan of treatment was *successfully* employed. For our own part we have long been inclined to doubt whether we are, in reality, justified in assigning to any author the full credit of absolute originality as the discoverer of any scientific fact. Upon a ground so extensively trodden as that of medical science, it appears to be almost impossible to discover any spot which has wholly escaped the scrutiny of every prying philosophical searcher, from the stagyrite downwards. Old facts may be revived, and may receive a practical value at the hands of the present race of observers, which they never obtained from their original discoverers; long forgotten and discarded principles may start forward, and receive new vigour and doubled value from the enlarged knowledge of their restorers, and from the philosophical and inquiring spirit of the age that welcomes their return to light; but still every scientific observer and extensive reader must have found how almost impossible it is to elicit any absolutely novel fact either in medicine or surgery. Let a morbid appearance

be observed which is considered to be absolutely unique by every anatomist to whom the specimen is submitted, the chances will be much in favour of the discovery of an elaborate article upon the subject in the pages either of Bonet or Morgagni, and very possibly in those of Cruveilhier, Hodgkin, or Carawell. A new operation is proposed, and is for a time considered as an invaluable improvement upon the old systems, until the originality of the proposition is destroyed by a discovery of the entire detail in the pages of Paré, Vicary, or Lowe, or in the black-letter jargon of some barber-chirurgeon of the sixteenth century. The same may be said with regard to therapeutics; many a highly vaunted and newly introduced remedy of the present day may be found lurking among the prescriptions of the apothecaries of the "dark ages," in ignoble association with recipes for the preparation of the " decoction of whelps," the "pulvis humani cranii," mumie, pomanders, and cere cloths.

The above remarks are not, however, intended to depreciate the claims of those who first effected the cure of aneurism by the means described in the pamphlet before us. John Hunter, Sir E. Home, and other surgeons, attempted to procure the obliteration of aneurismal sacs by compressing the artery from without, but decidedly failed in the attempt, being, as it would appear, discouraged by observing that no pressure which could be borne was sufficient to put a stop to the pulsation in the sac; and we feel satisfied that the first operator who succeeded in establishing the fact that large external aneurisms may be cured by compression of the artery between the heart and the sac was an Irish surgeon, the late Mr. Todd, who, in the years 1820 and 1825, treated three cases of popliteal aneurism by the application of an apparatus which compressed the femoral artery, without materially interfering with the circulation through the other vessels of the limb: in one of these cases the aneurism was cured by compression, in the other two the femoral artery was tied. The details of Mr. Todd's cases, which are cited in this article, also prove that the mind of this ingenious surgeon was perfectly alive to the *principle* upon which this plan of treatment is

at present employed; this will be perceived from the following observations which are appended to Mr. Todd's detail of his first case:—

"The tumor was so much under the control of pressure on the inguinal portion of the artery, that I was not altogether without hope that *by diminishing the current of blood in the trunk of the artery, so as to favour the coagulation of the contents of the sac, a cure without operation might be effected*; at all events it was obvious that, by giving time to the collateral arteries to be dilated, the success of the operation would be rendered less certain."

To Mr. Hutton is certainly due the credit of reviving this operation, which appears to have been discontinued for about twelve years; and to Dr. Bellingham surgery is unquestionably indebted for the ability with which he has investigated this subject in all its bearings, and for the useful suggestions by which he has assisted to render the operation surer and less painful than it originally was.

The following "conclusions" are appended to this essay:—

"1.—That numerous attempts have been made during the present century to cure external aneurisms, popliteal in particular, by means of pressure upon the artery between the sac and the centre of the circulation; and that various instruments have been contrived to effect this purpose.

"2.—That by such means it is more than probable that occasional cures were made.

"3.—That popliteal aneurism seems the most favourable for the application of pressure.

"4.—That to Mr. Todd is due the merit of having first fairly tried, and successfully applied the pressure treatment of popliteal aneurism in these kingdoms.

"5.—That no permanent position was established for the treatment of aneurism by compression until the cases treated by Mr. Hutton, Mr. Cusack, and Dr. Bellingham, were brought before the profession at the Surgical Society of Ireland, in 1843.

"6.—That up to this period the instruments made to effect the compression were defective, inasmuch as they applied the pressure on but one point.

"7.—That the improvement introduced by Dr. Harrison's patient, Hoey, of applying a number of clamps along the course of the artery, has done much to remedy this defect, and has afforded surgery a very valuable hint on the subject.

"8.—That from the history of cases recorded by Professor Porter and Mr. Cusack, it would appear that it is not necessary com-

pletely to arrest the pulsation in the tumor, by pressure on the artery, in order to produce a cure.

"9.—That this cure is effected by means of a coagulum formed in the sac, either by lessening the current of blood flowing through the arteries, or by some peculiar power of coagulation imparted to the blood, aided by the contraction of the sac.

"10.—That in order to effect this coagulation, galvanism has been employed, and appears to hold out hopes of success.

"11.—That from dissections we learn, that it is not necessary to obliterate the artery between the point of pressure and the sac, in order to produce this coagulum, and effect a cure.

"12.—That pressure has been tried, and produced coagulation, even when applied to the distal side of the sac."

We regret to find that an idea appears to exist among our friends in the sister isle, that English surgeons have been too backward in testing the effects of this new plan of treatment, and that English journalists have been not a little remiss in neglecting to attach sufficient importance to the remarks which have from time to time appeared upon this subject in the Dublin periodicals. We are confident that both of these charges are founded upon error. It is not singular that, for a time, English surgeons should have hesitated to employ an operation which had never been successfully performed in this country, but the merits of which were being submitted to careful investigation by several able and practical men in the Irish capital. So soon, however, as the safety and success of this measure in certain cases was fully established, it was at once adopted in this country, as the results of six successful cases reported by English surgeons in the years 1843, 1844, and 1845 fully testify. If, however, we are blamed for not submitting our patients to the trial of this experiment until we were certain that the measure offered a fair prospect of success, we of course immediately plead guilty to the charge. With regard to the accusation which has been brought against the English journalists, we do not hesitate to say that there is not any one of our periodicals, of any repute or standing, in which the observations of the Dublin surgeons upon this subject have not been fully and sufficiently quoted: that such quotations may not have appeared so early as the authors of the essays

desired is not improbable, but for an explanation of this fact no person who reflects upon the difficulty of condensing the entire medical information of a year within the pages of a single volume will long continue to hesitate. Apart from the irreversible principle that in the present day no really new and practically useful fact can be adduced without, sooner or later, winning its way to the attention of the scientific world, we can assure the whole of our professional brethren throughout the united kingdom that there are no original medical observations which are more highly appreciated by English practitioners than those which emanate from Dublin and Edinburgh.

Proceedings of Societies.

AN ADDRESS

DELIVERED BEFORE THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY OF LONDON,

At the Anniversary Meeting, held on Monday, March 1st,

By W. F. CHAMBERS, M.D. K.C.H.
President, Physician to the Queen, &c.

GENTLEMEN,—It is seldom that one who undertakes to address such an assembly as this, has to congratulate himself and his audience on the deficiency of his materials. This, however, is my good fortune on this occasion; for it so happens that the number of our departed associates does not this year amount to more than a moiety of those whom it was my painful duty to commemorate when I last had the honour of addressing you. The names, however, to which I am now to invite your notice, though comparatively few in number, are by no means of inconsiderable weight and estimation amongst us; for in the catalogue we find the names of BOSTOCK, JOHN THOMSON, HATCHETT, and TOMMASINI,—men highly honoured by the profession and the public—men who have illustrated this Society by the brightness of their talents, and by the reputation they have achieved for themselves.

First in the list of those whom death has removed from our ranks during the last year, stands the name of Dr. JOHN BOSTOCK, a very eminent chemist and physiologist, and a physician also of no inconsiderable fame; the only son of a physician, whose early promise of eminence was extinguished

by his premature decease in the flower of his age and his prosperity.

Dr. John Bostock, after spending the greater part of a successful professional life in his native town (Liverpool), retired with a competency, which he had most honourably acquired before he had attained the 43d year of his age. He then transferred himself to London, and in a very few years became distinguished in the best literary and scientific circles of the metropolis. In the year 1818 he became a Fellow of the Royal Society, of which he was subsequently one of the Vice-presidents. He contributed, but he was the author of one paper only, in the *Transactions* of the Society, entitled, "An Essay on the Spontaneous Purification of the Water of the Thames." He was also a frequent writer in the scientific portions of the *Monthly Review*, in the *Edinburgh Medical Journal*, and in the *Transactions* of this Society, of which he was one of the earliest and most efficient supporters. He wrote also several papers in Brewster's "Encyclopædia," amongst which may be mentioned the articles, Albino, Galvanism, Heat, Animal Magnetism, Materia Medica, Medicine, and Physiology, and contributed largely to most of the medical and scientific journals of the day. He afterwards occupied much of his time in collecting many of his more important essays into separate volumes. The result of these labours is well displayed in his "Essay on Respiration" and his "History of Medicine."

But it was not till he had attained the 63d year of his age that he commenced his principal work, on which, indeed, he desired to fix the basis of his high reputation: namely, his "Elementary System of Pathology," which was completed in the year 1827, and collected within the following ten years (in the last edition) into one large octavo volume, forming a most commodious compendium of all the facts and theories belonging to this extensive subject which were then extant. After this period he meditated some other important works, the completion of which was arrested by his unexpected death from an attack of cholera in the autumn of 1846.

This will suffice for a sketch of the professional life of Dr. Bostock, one of the most eminent chemists and physiologists of our day. There have been, indeed, in our time, as well as in every earlier period of the existence of our Society, many eminent physiologists and pathologists,—many men deserving most highly of philosophy in general, and of our science in particular,—whose fame may be said in all ordinary respects to vie with that of Dr. Bostock; but I doubt whether there has appeared one who has more fairly earned the meed of praise for a quality standing so

much higher than any other mental characteristic—

"Quantum lenta solent inter viburna cypressi;"

—I mean the quality of scrupulous integrity and unimpeachable truths as to all his facts and statements,—a quality the want of which renders so large a portion of medical literature worse than useless, whilst its presence illumines the plainest and homeliest narrative with an inimitable lustre.

It is unnecessary that I should occupy your time in recapitulating Dr. Bostock's various works in every department of medicine; for a complete account of which I would refer you to the memoir of his life by the learned author of the "Medical Portrait Gallery," or to the catalogue of the library of this Society, for the amplification of which he so successfully laboured.

Dr. JOHN THOMSON, professor of general pathology in the University of Edinburgh, stands next in the list of those whom we have had the misfortune to lose by death since our last anniversary meeting,—who, having survived two generations of his professional brethren, seemed, as it were, the connecting link between them, and formed in his character a remarkable combination of the excellencies of both.

It would be impossible, in such a notice, to mention all the particulars of his life and professional labours. I would, however, call your attention to a few prominent features in his character, which, at the same time that they tend to establish his well-deserved eminence, may serve as materials for useful reflection and improvement to ourselves.

Dr. Thomson was born at Paisley, in a humble station and straitened circumstances; but nevertheless, while yet a youth, and in the midst of the drudgery of a medical apprenticeship, he contrived to devote himself to the study of botany with great energy and success. He next entered on the pursuit of chemistry, and, having settled at Edinburgh, delivered a course of lectures on this science, and published a translation of Fourcroy's *Elements*, accompanied with valuable notes.

In the year 1800 he was appointed one of the surgeons of the Royal Infirmary, and professor of surgery to the College of Edinburgh, the duties of which lectureship he ably performed for sixteen years; and became, in 1806, the first occupant of the chair of Military Surgery, then just established by the Government.

It is not necessary or expedient that I should carry you in detail through the different stages by which Dr. Thomson mounted from the comparative lowliness of his early professional station to the enviable position and distinctions of his later life. Suffice it

to say, that, having early imbibed, as might be fairly anticipated regarding such a mind, the soundest principles of liberality, both as to politics and science, he became naturally associated with many leading men, both in Edinburgh and in this metropolis, with whom he sustained a philosophical intimacy throughout his life. It is enough to mention, in this galaxy of talent, the names of Stewart, of Allen, of Mackintosh, of Horner, Lauderdale, and Brougham: in the society of these and other kindred spirits he passed through his professional career with an unblemished private and public reputation. At length he resigned the chair of Surgery, but was anxious (on the ground of having pursued general pathology with much assiduity and zeal) to succeed, on the death of Dr. Gregory, to the professorship of Practice of Physic; he was not, however, successful in this attempt; but as soon as his political friends returned to power, he was appointed to the professorship of General Pathology, to which he had long aspired, and this he retained till his death, in the year 1846, at the advanced age of 81 years.

Having described very cursorily the general history of Dr. Thomson's life, I will detain you only with a short commentary on some of the principal improvements in medical science for which we are indebted to his researches.

John Hunter had a few years previously published his "Treatise on the Blood and Inflammation," which had hitherto remained almost a closed book to the profession, on account of the complexity and indistinctness of its enunciations, when Dr. Thomson, being struck with the importance of the work, and the little attention, as compared with its real value, with which the profession appeared to regard it, determined to apply his powerful mind to the elucidation of the doctrines propounded by the great author, and reduce them to a more systematic and philosophical arrangement than had been previously attempted by any writer on the subject.

It was in the course of surgical lectures, founded on these doctrines, that he expatiated over the wide field of cutaneous diseases, particularly those which are known by the term *specific eruptions*, and he was able to communicate much information of the utmost value and interest both to the physician and the surgeon.

From observing the difficulty which was acknowledged to exist in diagnosing between *specific sores* and those which were simply *cachectic*, he was induced to adopt the opinions of Mr. John Pearson, Sir Wm. Fordyce, Mr. Abernethy, and others, on the efficacy of sarsaparilla, mezereon, sassafras, and the mineral acids, in the treatment

of certain cases closely resembling syphilis, as to many of their symptoms and habitudes—opinions, in truth, of which his own experiments were abundantly confirmatory. It was nevertheless obvious that the diagnosis was not yet clearly made out, and that still much was to be done before a satisfactory position could be taken up with regard to the degree of confidence that was to be placed in the various substitutes for mercury which had been proposed in syphilitic and syphylloid maladies. He resolved, therefore, to ascertain, in the true spirit of the inductive philosophy, whether *all* cases of this class might not be taken out of the category of diseases curable only by specific remedies, and treated on the simple principles and indications of reasonable medicine—I mean by such remedies as the antiphlogistic regimen—repose, and mild local applications.

After a fair trial of this system of treatment, he came to the conclusion that both primary and secondary affections were curable without mercury, and that although some of these cases proved somewhat obstinate, yet that the instances in which no mercury was used yielded, on the average, at least as speedily as those which had been subjected to the influence of that mineral. The profession, after due experience, have, with a few exceptions, adopted Dr. Thomson's doctrine on this subject, reserving, however, the opinion, which is pretty generally received, that although, by great care and management, syphilis, both primary and secondary, may in due time be removed by the means recommended by Dr. Thomson, there are certain cases which are so much more readily removed by the mercurial treatment than by any other, that no practitioner of the present day would feel justified—in the more inveterate instances of the secondary disease, at least—to allow his patient to be exposed to all the risks of a relapsive delay, when it is evident that a well-conducted and well-defined course of mercury will certainly eradicate the poison.

It is but fair to state here, in justice to my late lamented friend and colleague, Mr. Rose, surgeon to St. George's Hospital, and a distinguished member of this Society, that, during the progress of Dr. Thomson's investigations, he had somewhat anticipated him, not as to the discovery of this truth, but rather as to the time of the publication of the doctrine in question, which, indeed, Dr. Thomson did not seem unwilling to admit, as the following sentence in one of his letters will testify:—

"In the course of reporting the cases in these hospitals for my clinical lectures on military medicine, I was surprised to be informed, in February, 1817, by Mr. Kenning resident-surgeon of the Ordnance medical

department, that a practice similar to that which I was following in syphilitic cases, had been employed for a considerable period, (I have reason to believe even some time previously to my appointment to the Dépôt hospital,) by Mr. Rose, surgeon of the Coldstream Guards, and I was happy to learn that the results of his practice were similar to mine."

It would appear from a paper published in the eighth volume of our *Transactions*, that Mr. Rose's experiments were made in the year 1815, and the results were communicated to this Society in August, 1817.

These investigations, especially as they related to specific diseases of the skin, led Dr. Thomson's mind to the discussion of another subject of great interest to all of us,—I mean the subject of varioloid diseases, the true pathology and habitudes of which he first pointed out, and presented their history to the profession in an intelligible and perspicuous form.

It is well known that for several years after the great discovery of Dr. Jenner, such was the laudable anxiety of medical men to establish generally the practice of vaccination, that it was difficult, even in the face of undoubted proofs of its occasional but obvious failure, to persuade the profession not to consider every case of varioloid disease occurring after vaccination to be chicken-pox and not small-pox: hence there arose a cloud of discussion and dispute, naturally founded on the ingenious attempts of Dr. Heberden, and afterwards of Dr. Willan, to establish the true diagnosis between varicella and variola, involving the attempt to show that the exanthema of the former was always vesicular, whilst that of the latter was of a true pustular character. But it was soon found that this distinction would not stand the test of strict observation, for that vesicles and pustules were found so mixed together in these cases, as to make it impossible to avoid the suspicion that variola and varicella were the same disease, and that the latter was merely a modification of the former.

This masterly conclusion cleared away at once the whole mystery, and shed a broad daylight on all the obscurities which had previously perplexed the question, leaving the minds of most men at rest on the subject; and although the explanation marred a little the simplicity of the doctrine of the complete immunity from subsequent variola bestowed by vaccination, yet it cannot be said to diminish its real value, inasmuch as it showed that if it sometimes failed in perfectly defending the individual from subsequent contamination of variola, yet that, in this respect, the exceptions to the law of immunity occurred only in cases in which the prevalent variolous poison was unusually

intense and virulent; and that, under such circumstances, the previous occurrence of small-pox itself did not preserve the individual from being again affected by it, but that even in these very cases the previous vaccination had an extraordinary power of shortening the stages and modifying the severity of the secondary disease.

Having thus concisely exhibited to you some of the claims of Dr. Thomson to the gratitude of the profession for his contributions to our pathological improvement during his long and useful life, I would fain have concluded our notice of him by expressing our sincere admiration of his talents and industry, and his uniform endeavour, on every occasion, to promote the cause of learning and liberality. I cannot, however, allow one point to escape our observation, involving an error in professional ethics, which is important, as it attaches to a man so eminent in his generation as Dr. Thomson, and which therefore, on the principle laid down by the poet,

"Omne animi vitium tanto conspectius in se
Crimen habet quanto major qui peccat habetur," renders that which might seem scarcely a noticeable error in judgment appear very important, as pointing out an example of unfairness to his brethren of considerable weight. And I am the more anxious to touch (however leniently) on this point, because his biographer in the *Edinburgh Journal* has related the anecdote without expressing any disapprobation of this offence against professional candour and propriety.

It appears that during the illness which terminated the life of George IV., Dr. Thomson was induced to write the following letter to a non-medical friend, Lord Lauderdale:—

"My dear Lord,—I am glad to perceive, from the bulletins and newspaper accounts, that there seems to be some little mitigation in the severity of his Majesty's complaints; and the mention of the fact, that this relief has succeeded to punctures of his limbs, shows that the complaint is now acknowledged to be dropsical. In these circumstances, I cannot help repeating to your lordship in writing, what I dare say I may have mentioned to you in conversation—viz., the remarkable effects which, during the last few years, I have had occasion to see produced in dropsical affections—hydrothorax, ascites, and anasarca, whether single or combined, dependent upon organic affections, or arising from other causes—by the use of elaterium. My experience entirely coincides with the account which is given of this medicine by the late Dr. Ferriar, of Manchester, in his 'Medical Histories and Reflections.'

"I state this to your lordship in perfect ignorance of his Majesty's present condition,

and of the remedies which may have been or are at present employed; but I have now so often found the elaterium succeed, after all the usual diuretic and hydragogue medicines had failed, in dropsical affections, that I consider it as the most powerful of all the remedies for the cure of dropsy that are as yet known to us."

(Here follows a very common-place description of the mode of using the elaterium, and its effects.)

"It is more than probable," he proceeds to say, "that his Majesty's medical attendants are as well or better acquainted than I am with the use of the elaterium; but I feel that I should not discharge my duty towards you without giving you my testimony in its favour. I should like that you read the passages in Dr. Ferriar's work to which I have referred, and make such use of them, or of the information contained in this letter, as you may judge proper. I need hardly add, that I trust you will say nothing of this communication.—I am ever, my dear Lord," &c.

It will be seen that in this letter Dr. Thomson lets us know, first, that his only knowledge of his majesty's malady was founded on conjecture; that he was ignorant of the king's actual state; and that he had no means of knowing what treatment had been already adopted by those who were in attendance, yet thought it necessary to suggest, through a layman, with great ceremony, a drug to be prescribed in the case, that drug being in common use (I may say almost in universal use in dropsy), and perfectly well known to every tyro in physic; so well known, indeed, and so common, that to a medical ear it sounds as preposterous as if, in the nineteenth century, he had solemnly mentioned jalap, or scammony, or senna, as excellent medicines for emptying the bowels.

I have mentioned this anecdote, not so much with reference to the inconvenience of such an interference to the professional men employed in the case, (though this point ought not to be disregarded), but because the general rule which forbids such interference is framed as much for the comfort, and therefore the advantage, of the patient as of the physician.

The physician, loaded with the weight of such a responsibility as this, is called on to exercise the most impartial and unembarrassed decision as to the choice of the means which are best adapted to the existing emergency; and if his judgment is to be disturbed by trivial and unnecessary interruptions, whilst he is determining this question, his power of benefiting his patient is in the same proportion impaired as his credit is endangered.

Having thus, I trust impartially, discharged my duty to the memory of this

learned and eminent individual, who has indeed already secured to himself a lasting name and reputation amongst the scientific philosophers of Europe, I will proceed to notice the loss we have sustained from the decease of others who have filled no mean place amongst our departed associates. Of these I would name, with deep regret, the name of HONORATUS LEIGH THOMAS, a distinguished member of the College of Surgeons, as well as of the body I am now addressing. In early life he became well known as attached, in a medical capacity, to Lord Macartney's embassy to China, in 1792, having obtained that appointment at the recommendation of John Hunter, under whose tuition he acquired those habits of accuracy and diligence which essentially assisted him throughout his subsequent career, whether we regard him as a naval and military surgeon, or later in his life, when, having returned to England after the unfortunate campaign in Holland, he became associated, in 1799, with Mr. Cruickshank, (whose daughter he married), and joined his father-in-law in the lectures he delivered at the School of Anatomy in Windmill Street; and about this time was elected a Fellow of the Royal Society, and became a contributor to its *Transactions*.

He acted also for many years as one of the Council of the College of Surgeons, and also a member of the Court of Examiners of that learned body, which office he discharged faithfully until he retired from practice; and was remarkable throughout for the kindness and consideration with which he performed its important duties. At length, however, he became the subject of a most painful malady, which, although treated with great success by Baron Heurteloup (a large calculus having been pulverized and removed), yet left him with some apprehensions of a relapse of his complaint, which induced him at once to retire from his labours to enjoy the repose of domestic society, and to look forward, in comfort and tranquillity, to his departure, as "kind Nature's signal for retreat," from an active, useful, and beneficent life.

Next in our list of our deceased associates stands the name of CHARLES WINGFIELD, Esq. surgeon to the Radcliffe Infirmary at Oxford, and an eminent practitioner in that city. He was the son of a clergyman in Shropshire, and was educated at the grammar-school of Shrewsbury, which was so long distinguished by being presided over by Dr. Butler, afterwards Bishop of Lichfield, and by having sent forth into the world a list of eminent scholars which would have done honour to larger and more renowned foundations. He owed his professional education, under Mr. Naylor's tuition, to the Gloucester Infirmary, and to

St. Bartholomew's Hospital, where he was known and cherished by the best men of his times. He did not, however, fix himself at Oxford till he had spent several years in the pursuit of medical and scientific instruction in the East Indies. On his return, he attached himself to Mr. Tuckwell, at Oxford, and in the year 1816 became, as before mentioned, surgeon to the Ratcliffe Infirmary, and continued practising many years, in conjunction with that gentleman, whose death preceded Mr. Wingfield's by a few months only. I cannot give you his character more concisely, and at the same time more ably, than in the words used in an abstract from a letter written by one who knew him well, and was well able to appreciate his talents and acquirements. He says, "although they (Messrs. Tuckwell and Wingfield) were thus practising together for many years, Mr. Tuckwell had the chief fame. Mr. Wingfield's reputation was a good and sound one—he did the great operations of surgery, was respected, and had considerable business on his own reputation. He has left no writings, and has added nothing to surgery; but he served his own generation whilst he lived, and each day saw him usefully employed in a profession which he really loved. He was free from all avarice in money matters, and he had many very intimate friends. In a few words he was an active, good surgeon, without any great peculiarity, and very kind to the poor. He died during the last year, after an absolute suppression of urine, which terminated his life within two days of his seizure.

I must not close my memoir of this day without mentioning two names of honorary fellows of this Society whom we have lost since the last anniversary meeting, both men, in their respective provinces, of considerable eminence and reputation, and both reflecting much credit on the Society. These were, Professor TOMMASINI and Mr. CHARLES HATCHETT.

Tommasini, the celebrated professor of clinical medicine in the University of Bologna, was well known, chiefly by his ardent espousal of the opinions of Rasori of Milan, who first introduced to the notice of the profession the practice of administering large doses of antimonium tartarizatum as a powerful antiphlogistic agent in the treatment of acute inflammation, in which he followed the track first pointed out by Rasori, and afterwards warmly supported, with some important modifications in detail, by Laennec, in whose work on Auscultation, under the head of Treatment of Peripneumony, the doses in which it was usual to administer the remedy are fully described, and the whole subject developed and discussed.

I have been favoured by one of our ac-

complished colleagues, who was in the year 1827 an eye-witness of Tommasini's practice, with a short sketch of the manner and character of this eminent physician, which I trust he will pardon me for reading to you in the very words of his memorandum. He says, "It was on the 14th of February, 1827, that I made acquaintance with Tommasini at Bologna, and spent ten days there in regular attendance on his practice. He was at this time Professor of Clinical Medicine at the University of Bologna. He appeared to me popular as a teacher, careful in the investigation of his cases, and most courteous to many foreign students, especially Englishmen, who followed him round the clinical wards. He told me that he occasionally carried the doses of tartar emetic to twenty or thirty grains in the twenty-four hours. He relied greatly upon this remedy, which had been employed in a similar way by Rasori of Milan before Tommasini adopted it. I saw several cases of acute pulmonary diseases successfully treated by Tommasini on this plan.

"Tommasini was an ardent patriot, and lamented over the degraded state of his country, and was more than once displaced from his professorship on account of his liberal ideas. He was a great admirer of England and her institutions; and I remember hearing it said in his presence by his friend, the celebrated Professor Conti, that England was the only country in Europe in which there were men, and where there was a government fit for men. Tommasini appeared to be much respected and popular in a circle of distinguished professors at Bologna, amongst whom were, besides Conti before mentioned, Orioli, the celebrated mathematician, and Mazzofanti, the great linguist.

"Tommasini visited England at the time of Queen Caroline's trial, and on his return to Italy, he published a work, entitled, 'The Methods of Cure, and of Clinical Teaching in some of the Public Hospitals of England and Scotland.'

"He died at length at the age of seventy-seven in his native city of Parma, where he was much esteemed by his sovereign, the ex-empress of France. He was of middle height, and of most courteous and friendly manners."

The other accomplished individual to whom I alluded was CHARLES HATCHETT, Esq. who, although not strictly belonging to us in a professional point of view, has a claim on our affectionate remembrance, from having been selected as a Fellow of this Society, in reward for his devotion to the science and profession with which we are associated—a tribute, indeed, we most readily and gratefully accord to him. His very recent decease, however, has precluded me

from preparing materials as fully as I could have wished, for doing justice to his interesting character and pre-eminent merits.

Mr. Hatchett was born in London, in the year 1775, in a station of high respectability. From his earliest years he enjoyed a competency, which relieved him from the necessity of pursuing any professional occupation. This competency he devoted to the pursuit of science, and mainly to a department of science which was particularly allied to medicine. His admission into the Royal Society gave him a ready opportunity of communicating to the scientific public the results of his chemical and physiological labours; and, as was natural in the midst of these researches, he became much interested in everything appertaining to our profession, the members of which he seemed peculiarly to cherish; and in combination with some of the most distinguished of them (amongst whom I must mention the name of his son-in-law, Mr. W. Brande, one of our most valued members) stood forth, as it were, the father of the science of animal chemistry.

For the details of his commentaries on these subjects, I would refer you to the volumes of the *Transactions* of the Royal Society, published at the commencement of the present century.

The later portions of his life were spent in comparative retirement, but still in the society of a few learned and scientific friends, to whom his good sense, urbanity, and cheerfulness, made him exceedingly acceptable, until natural infirmities crept over him; and at the advanced age of eighty-two years closed a satisfactory life in honour and peace.

To conclude: I would remind you, in performing to the best of my power this annual duty of the president, although I may appear at first sight to have been occupied in executing a mere formal, and perhaps, as far as my audience is concerned, a tedious duty, a little consideration, however, will satisfy us that if it is discharged with unaffectedness and simplicity, it is calculated to serve a most important end.

It is impossible, I think, to gird ourselves to the task of contemplating in the retrospect the circumstances and characters of our predecessors, and watching their conduct in the various phases in which our own may hereafter present themselves to our successors, not to please ourselves, or at least to feel deep interest in observing,—as it were, from afar off,—the manner in which they have been able, whether successfully or unsuccessfully, to contend with the difficulties which they have encountered, and by the assistance which their moral energies have afforded them, to escape, perhaps alto-

gether, from the perils of the great ocean of life which they have traversed.

*Suave mari magno turbantibus æquora ventis
E terra magnum alterius spectare laborem;*

and, above all, to be able to indulge ourselves with the satisfaction of believing that in our own profession (which has, after all, nothing to exhibit to the world of what is dazzling or brilliant), we can place in our front so large a proportion of men capable of illustrating pre-eminent learning and talents with irreproachable reputation.

SOUTH LONDON MEDICAL SOCIETY.

February, 18, 1847.

CHAS. WATERWORTH, Esq., President, in the Chair.

DR. MURPHY read some observations on

Chancres.

The author, alluding to the atmospheric or animal source of some diseases, as pertussis, variola, glanders, hydrophobia, &c., considered that between the latter and chancre there was a strong analogy, inasmuch as a peculiar poison is secreted without a specific glandular apparatus. Attention was then directed to the many points of resemblance between hydrophobia and tetanus as regards origin, duration, and the diagnostic pathognomonic marks; and, although an argument in support of a self-originating poison destructive to life might be raised by a reference to cancer, fungus hæmatodes, &c., the same mode of reasoning might be applicable to phthisis, gout, and even rheumatism; yet the author would regard an alteration in the qualities of the blood, as in phthisis and cancer, very different from the doctrine that a constitution otherwise healthy can furnish the materials for generating a local poisonous ulcer. In variola the constitution is strongly impregnated before local symptoms appear; and such he believed the true course of all poisons. Hunter and others, convinced that there was nothing in the structure or functions of the generative organs capable of forming a multiplicity of sores, believed gonorrhœa and syphilis identical as to cause; the absence of secondary symptoms after gonorrhœa being imputed to the unfavourably absorbent power of a mucous surface, which the author considered the physiology and pathology of mucous membranes contradicted; and he regarded the true reason of such absence of secondary symptoms to be, that mercury was not considered a specific. Army surgeons had proved that females with gonorrhœa only had given chancres to some men simple gonorrhœa to others; and although,

as record asserts, the vagina of a gonorrhoeal female, if examined by a speculum, will be found studded with ulcers, yet, as secondary symptoms do not follow, it only appears to prove still more the identity of the two diseases. A bubo is regarded as confirmation that the venereal virus has entered the circulation, the swelling of the gland being attributed to the poison; yet this must pass through the second order of glands, which do not enlarge, nor, when the whole frame is full of the poison, do other glands inflame; this would check the course of the poison. A gland enlarges from common inflammation extending from a common ulcer along its corresponding lymphatic, as seen in sores behind the ears of children, and in some simple ulcers of the leg; nor does the author recollect, even in cancer, of glands enlarging unless there was ulceration of the surface where the lymphatics terminated. Although Hunter stated that inoculation with the pus of bubo was innocuous, yet we are asked to believe that the pus, so harmless to others, is in the highest degree injurious to the body secreting it; so that we must either believe that the bubo infects the constitution, or that the constitution produces the bubo; the latter, although not the more general, would appear the more philosophical opinion. That the peculiar appearance of chancre is caused by a specific poison, appears to the author a mistake, and is rather due to the peculiar structure which the ulcer occupies. A venereal preputial sore has an appearance quite different; and it is a sore on this peculiar structure which makes a chancre so difficult to be healed except by mercury; for the same difficulty exists in ulcerated lip,—a structure nearly analogous to the nature of the glans penis. An ulcerated bubo is exasperated under the use of mercury.

The question which the author thought should be dispassionately re-examined by the profession is, "Whether chancre be a simple or specific ulcer." If gonorrhoea and syphilis are admitted as identical, there is no difficulty in concluding that chancre is the result merely of friction and an acrid vaginal discharge. We should also reflect on the many erroneous opinions of this disease which latterly have been overturned, for it is now no longer credited, although formerly firmly believed—

That chancre is curable by mercury only;

That secondary symptoms invariably follow chancre if mercury is not exhibited;

That salivation is essentially necessary for the cure;

That periostitis, nodes, &c. arise from the poison rather than from the mercury;

The author concluded his observations by referring to the following among other con-

tradictory opinions on this disease, viz. that although infection cannot take place from secondary symptoms, yet we admit that the fetus in utero, and also at the nipple, may be infected.

To an inquiry from Mr. Hilton whether it was meant that chancre was merely the result of friction, and not of a specific poison, the author replied that it was so, and that inflammation was produced by the contact of an acrimonious discharge, and especially by the structure of the part.

Mr. SWERTS maintained that true Hunterian chancre, of which he had seen but three specimens, can never be mistaken, and is the result of a specific poison; but he had seen very many cases where an ulcer existed requiring mercury: he believed that mercury also caused a form of ulcer. The hard chancre is only produced by contact from a similar disease, and requires mercury for its cure; many ulcers met with will yield under sarsaparilla and iodide of potassium.

Mr. HILTON considered Dr. Murphy's doctrine novel, and not sufficiently supported by facts. Chancre cannot be the result of friction merely, as we see in one person a simple excoriation, and in another a true chancre; nor does it depend on the peculiar tissue of the part, as he had seen chancre on the finger, eyelid, lip, and, in two cases, on the tongue, in all of which cases actual contact had been traced, and which yielded to a gradual and persevering course of mercury: clearly showing that modification of tissue, or mere friction, were not the causes; excoriations, also, may last for months without secondary symptoms. These circumstances he thought conclusive against Dr. M.'s opinion. He explained the instances of a man with gonorrhoea giving a woman a chancre, by the fact that in many cases there might exist a chancre within the urethra not visible externally.

Dr. MURPHY explained that he did not intend to say that mucous membranes were solely for absorption, or that friction alone was the cause of the sore, but more particularly the acrid discharge; it depended much on the constitution whether simple excoriation or an ulcer took place, as at times seen in vaccination; he thought the lip analogous to the glans penis, and ulcers on the lip are extremely difficult to heal without [mercury?] as also those on the eyelid, and wherever there is a junction between the mucous membrane and skin; he had seen much practice among the Jews, in whom the glans is exposed by the circumcision of the foreskin, and they rarely have chancre. A case of a lady was mentioned who had chancre, and gave birth to a child. Dr. Murphy premised, as no mercury had been given, there would not be any secondary symptoms,

as proved to be the case. He believed it contrary to all ideas of physiology that a part should generate a poison without some alteration in the blood, but this was a point on which his opinion was not at present conclusive; he did not think a cure by mercury proved the syphilitic character of the sore, as some get well by rest, &c.

Mr. HILTON did not think any fact had been mentioned against the specific nature of chancre, which he believed to be propagated from one individual to another, but not generated. No two healthy persons in *coitus* could by the utmost friction produce chancre. In a case he had alluded to no mercury, had been given before the secondary symptoms, but only since, for their cure. Secondary symptoms may occur without primary sore, the poison appearing to be conveyed by the seminal fluid of the male.

Mr. SWETE alluded to the fact of there being many ulcers, not syphilitic, generally of a rounded form, and easily cured by low diet, &c. without mercury, which was often taken unnecessarily. He considered the diagnosis of secondary syphilitic and secondary mercurial cases very difficult.

Mr. HICKS could not agree with Dr. Murphy that the sore does not depend on a specific virus, as the same woman may give a different chancre to different men. He formerly gave mercury in most cases, but of late he had met with much more success without this remedy, by the application of caustic, followed by an opiate lotion; and, after the slough was thrown off, the red oxide of mercury ointment soon finished the cure. Nor did he agree with Mr. Swete that the Hunterian chancre was easily recognised, as an aphthous sore by irritation will assume the appearance of the genuine Hunterian chancre, but recover its aphthous character when the hardness leaves. He inquired if Mr. Hilton had seen more cases of secondary symptoms after the use of mercury, or where this had not been used?

Mr. HILTON alluded to the successful practice of Mr. Tuckett of the Dreadnought, who excised the chancre, and applied caustic, no mercury being used. Such treatment must, however, be early had recourse to. He, however, believed the judicious use of mercury valuable: where it had not been used in the primary sore the secondary symptoms were easily cured by its careful use.

Mr. HICKS agreed in the latter opinion, and cautioned against the use of solid nitrate of silver in all cases. He had seen it produce much irritation in some constitutions, and in strumous habits it may lead to the formation of a bubo. He alluded, as did also Mr. Swete, to those sores which form under the prepuce,—the result of dirt, and want of cleanliness.

Mr. HILTON, in answer to Dr. Murphy, considered that gonorrhoea would not produce syphilis, the latter being as much a specific poison as small-pox, but he agreed that many untoward symptoms were produced by mercury. He thought the disease was capable of wearing itself out in time: much of the mischief arose from the mal-administration of mercury by quacks, &c.

Mr. STENAY mentioned a case to prove that females may have secondary symptoms without a primary sore. As regarded treatment, he thought caustic could not always be used, and that it often could not be applied soon enough, he would advise the administration of small doses of mercury.

Thanks were voted to the author of the paper, and the Society then adjourned.

Hospital and Infirmary Reports.

WESTMINSTER HOSPITAL.

Case of Syphilitic Lichen.

JAMES STONE, æt. 22, was admitted into Mark Ward, under the care of Mr. Lynn, November 17, with syphilitic lichen, of three months' standing. He was put under a course of mercurial medicine, and appeared going on rapidly towards health, until Jan. 6, when an attack of erysipelas came on: it extended over the whole of the head and face: it came on without any precursory symptoms indicating an approaching attack; there was considerable redness of surface, and tumefaction. He was ordered Calomel. gr. iij. immediately; Hanst. Sennæ post hora quatuor.

7th.—Has been very restless, and suffers much pain in the head. Pulse quick, and not weak; tongue very furred, and coated; bowels slightly relieved; vesications beginning to appear; vomiting.—To have Calomel, gr. iv. statim; Mist. Ammon. Acetat. c. Mist. Camphor. ʒiiss. ter die.

8th.—Worse. There is delirium and much febrile excitement; tongue heavily loaded; pulse quick and feeble; much swelling of the parts.—To have the Mist. Sp. Vin. Gal. ʒj. ter die.

9th.—No sleep during the night; low muttering delirium; pulse has less power; tongue still furred; vomiting less; bowels not open since the evening of the 7th. A cathartic draught immediately.—Mist. Efferves. ʒij.; Syr. Zingiber. ʒij.; Liq. Ammon. Ses. Carbon. ʒiij. occasionally, and continue the brandy mixture every four hours.

10th.—Vomiting has ceased. There is

great prostration; delirium still continues; tongue is beginning to clean; bowels relieved only slightly; pulse stronger.—Ol. Ricin. ʒss. hāc nocte.; Cont. Med.

11th.—Appears better.—Pt.

12th.—Not so well this morning. Has much headache, with shivering; bowels open.—To have ʒiss. of the mixture every four hours.

14th.—Is going on favourably.—Pt.

15th.—He has passed a more restless night. There is more prostration, pulse being weak and flagging; tongue is dry, and more furred; the symptoms, generally, much aggravated.—To have of the Mist. Vin. Gall. ʒij. 3tis horis.

16th.—It is evident, from the low state of the patient, he requires all that can be done to keep him up.—If he can take it, to have porter and mutton chop; Cont. Med.

17th.—He has been able to take what has been ordered him, and is much better this morning. The tongue is beginning to get clean; the pulse has more power; bowels open.—Pt.

18th.—Better.—To omit ʒj. of the mixture.

20th.—He is rapidly improving under the remedies ordered; desquamation has begun; tongue cleaning rapidly; bowels open.—Omit the mixture.

23d.—Better.

31st.—Up to this time the patient has gone on gradually approaching a state of convalescence.

Feb. 3d.—The patient has now completely recovered from the severe attack he has been suffering from. The primary disease is better, and he will be made an outpatient of the hospital on Tuesday.

Mary Wheeler, æt. 47, was admitted into Queen Ann Ward, under the care of Mr. Lynn, on the evening of January 19th, with lacerated wound of the scalp, having fallen down a flight of stairs. The wound occupied the lateral and superior part of right parietal bone. The bone was denuded to the extent of two or three inches, but no injury was done to it. She was perfectly sensible at the time of her admission. The hair was removed, and the edges of the wound were brought together by adhesive strapping.

20th.—The patient is free from pain.—To have Hyd. Chloridi, gr. ij. hāc nocte.

25th.—Up to this time she appeared going on well, when an erysipelatous blush began to make its appearance, the edges of the wound were separating, and the adhesions breaking down; she had severe rigors; the tongue was loaded with a dark brown coat: the pulse very frequent. Bowels freely open; pain in the head. She is now suffering from very severe constitutional

disturbance.—To have hot fomentations applied, and the Mist. Sp. Vin. Gall. ʒjss. every four hours.

Vespere, 11 o'clock.—A severe diarrhoea having set in since morning, it was thought advisable in consequence of the weak depressed state it might further induce, to give her an astringent draught.

26th.—The erysipelas is rapidly extending, implicating the whole of the scalp and forehead; the pulse is very quick, 130. The tongue is furred and brown; there is not much thirst: the rigors continue. Bowels are not so much purged.—To continue the medicines.

27th.—The face this morning is very much swollen, and of a bright scarlet colour; the eyes being completely closed, the cheeks on a level with the nose. There is some low muttering delirium; the wound has begun to discharge; pulse quicker; tongue a little cleaner at the edges.—Continue the medicines and fomentations.

28th.—She has passed a very restless night, sometimes furious, having once rushed out of bed, and is continually shouting out she will leave the hospital. The redness is not so intense, but the eyes and face are very much swollen and suffused. A poultice has been applied to the wound of the scalp, which continues to discharge pus.—To have Mist. Sp. Vin. Gallici, ʒij. quaque tertiis horis.

29th.—Has passed a more quiet night; less delirium; tongue much cleaner: there is slight desquamation commencing. Pulse slower and feeble; bowels not open since yesterday.—Pergat.

30th.—Is much better this morning; pulse 80, fuller; slept during the night; does not complain of pain; bowels open; tongue cleaner, but rather dry in the centre.

Feb. 1st.—There is decided improvement this morning. The tongue is now clean; the pulse firmer and stronger; is now able for the first time to open the eyes; she speaks rationally.—Contin. Medica.

3d.—The patient is rather low, and complains of great languor and general depression. The erysipelas has subsided; tongue perfectly clean; bowels open; no headache.—Cont. Mist. Sp. Vin. Gall., and to have in addition ʒiv. of wine during the day.

6th.—She is now completely recovered from the attack, but remains weak, and says she hears a singing noise in her head; the wound of the scalp discharges freely: has no pain whatever.

15th.—The wound has now healed; she is stronger, and thinks she will be able to go about her usual occupation, and will be discharged to-morrow cured.

Medical Trials and Inquests.**CASE OF POISONING BY BITTER ALMOND WATER—VERDICT OF MANSLAUGHTER AGAINST MR. CRONIN.**

[Concluded from p. 388.]

THE inquiry was resumed on the 24th February.

Dr. John Scoffern stated, that, in the presence of Mr. Morson, Mr. Bell, Mr. Weathers, Dr. Venables, Dr. Cronin, and Mr. Tunally, he had made a relative analysis of the two bottles entrusted to him: one containing the water of bitter almonds, of which the mixture taken by the deceased was made; and the other containing the mixture itself, by partaking of which she died. The analysis was made on Friday last in the laboratory of the Pharmaceutical Society. They first tried to ascertain how much a liquid ounce of the water of bitter almonds would weigh, for that is a point very difficult to determine; but they found the measures that were at hand not quite delicate enough, and wished for a closer result, and it was impossible to arrive at a satisfactory result. They thought that about 430 grains might be assumed as the correct weight. They then proceeded to analyse the water, and, taking 424 grains for that purpose, found them yield about 1 grain and 28-100ths of a grain of real prussic acid. A fluid ounce of the mixture weighed also about 430 grains; and 424 grains of that yielded 9-10ths of a grain of real acid. He made a second analysis, in the presence of Mr. Weathers, at the laboratory of Mr. Taylor, a chemical analyst, in Bridge Street, Blackfriars. 200 grains of the bitter almond water yielded 27 decimal parts per cent. of real acid; 200 grains of a mixture prepared on the day of the analysis with the same water yielded 275 decimal parts per cent. of real acid; and 200 grains of the mixture from which Miss Collyer died yielded 234 decimal parts per cent., shewing that not much decomposition in the prussic acid had taken place. He had also tried an experiment with black oxide of iron, which was said to be contained in the compound strychnine powder. The black oxide of iron did not produce Prussian blue. They agreed in estimating an ounce of almond water as containing a little above 60 minims of the Pharmacopoeia prussic acid. Coroner.—How much of that acid would be a full dose for an adult? Witness.—We are ordered in the Pharmacopoeia not to give more than 15 minims, which would be a very large dose. There is a case on record of a man taking two drachms without its producing death. Coroner.—What is a full dose of

strychnine? Witness.—It is used in very minute doses—fractions of a grain. He had once found a teaspoonful of prussic acid necessary to kill a very strong cat. With regard to its effect on the human species, that depended a great deal on the constitution and on the state of the stomach. In reply to a question put by the Coroner, the witness stated, that he was formerly a lecturer on chemistry and forensic medicine in the Aldersgate Street School of Medicine.

Dr. R. Venables, residing at 5, St. Vincent's Place, City Road, Islington, stated, that he is a Bachelor of Medicine of Oxford, and an Inceptor Candidate of the Royal College of Physicians. He was appointed by Dr. Cronin to observe the analyses carried on by Dr. Scoffern. 424 grains of the almond water yielded 6 grains and 4-10ths of the cyanide of silver, which was equivalent to 1·28-100ths of pure acid; and 424 grains of the mixture gave, by calculation, about a similar quantity of prussic acid. By the Coroner.—He had never prescribed bitter almond water as an internal or external remedy. He had prescribed prussic acid. He was not aware of ever having prescribed compound strychnine powder. Bitter almond water was used in prescriptions, though he could not recollect a case. He had gone into the shop of Mr. French, a chemist, in Holborn, and asked for bitter almond water, and it was shewn to him.

Mr. Jacob Bell, chemist, in Oxford Street, was called. He was present at the analyses made by Dr. Scoffern, but said, that, if the apparatus employed on that occasion had not been sufficiently delicate, as was stated by Dr. Scoffern, then his (witness's) evidence was worth nothing. The scales turned to a hundredth part of a grain, though some of the apparatus had not been kept in a glass case. Dr. Cronin had stated, that the mixture was not made up correctly, but he had not told them how he would have had it made up. Witness produced a printed statement, shewing 18 different varieties of bitter almond water, taken from continental pharmacopoeias, and all varying in strength. He did not speak of varieties of bitter almond water used in London. Bitter almond water was not in use as an internal remedy in the medicinal formulas of England. By Mr. Tennant (a solicitor).—The bitter almond water which he sent to Mr. Corfield was poison. He did not write "poison" upon it, because he was sending it to a chemist.

Mr. George Venables, lived with his father, a preceding witness, at 5, St. Vincent's-place, City-road, and was a medical pupil with Dr. Cronin. He (witness) purchased some bitter almond water at the direction of his father, at the shop of Mr. French, a chymist, in Holborn. He was

directed to ask for bitter almond water; he did not take any written paper. He was directed to get an ounce or an ounce and a half. He asked for it in English. He did not know whether Mr. French himself was the person of whom he purchased it. Did not tell him the use or purpose for which he wanted it. The person of whom he bought it mentioned the affair of Miss Collier's inquest, and said that Dr. Cronin was a great "bother," in regard to preparing prescriptions with almond water. Witness did not know the strength of the almond water; he paid 4d. for it, and it was not labelled "Poison." Told the chymist that he had come from Dr. Venables. Went into the Haymarket, to the shop of a Mr. Hudson, a chymist, but could not procure the bitter almond water there. Went also to Mr. Gillott's shop, another chymist, but they had not got it. Was not aware that Mr. French was in the habit of preparing Dr. Cronin's prescriptions. They had a dispensary at Dr. Cronin's. It was not an open dispensary, it was a private one connected with Dr. Cronin's private house. Witness was in the habit of assisting at the dispensing of medicines there. They made their own almond water; and did not buy it of any manufacturing chymist in London. Their bitter almond water was in the proportion of *six minims of the essential oil of bitter almonds to a quart of water*. To make the compound strychnine powder he puts *two grains of strychnine in half an ounce of sugar*. They did not dispense any other prescriptions than those of Dr. Cronin's own. Witness dispensed Miss Collier's prescription from a form given to him by Dr. Cronin verbally. Did not see it extracted from any book. Had been in the habit of using it for about a month, as nearly as he could recollect. Mr. Mottley, of Berwick Street, Soho, dispensed Dr. Cronin's prescriptions some time. Had not applied there at any time for bitter almond water, because he knew Mr. Mottley did not keep it. By Mr. Tennant.—Did not know Gray's *Supplement to the Pharmacopæia*. He always mixed from Dr. Cronin's formulas. Had never heard any ill effects from Dr. Cronin's formulas. Mixed some medicine once for the unfortunate lady deceased, following the prescription. That was about 12 days before her death.

Dr. Venables, in reply to a question put to him by Dr. Cronin, stated that the bitter almond water which the former bought at Mr. French's shop, in Holborn, contained *very nearly one-fiftieth of a grain of prussic acid in an ounce*; and that if the almond water bought of Mr. French had been used in Miss Collier's prescription, it would certainly not have killed her. By the Coroner.—It would not have been dangerous or

hurtful in any way. The Coroner expressed his regret that Mr. French himself had not been called to speak of the strength of his bitter almond water. By Mr. Tennant.—In Gray's *Supplement to the Pharmacopæia* there is such an article as is mentioned in Dr. Cronin's prescription. [The witness here pointed to the following extract from page 341 of that work:—"Bitter almond water, aq. amygdalarum amararum. Almond (bitter) cake bruised, 4 lb., draw 5 gallons. Aq. amygdalarum amararum concentratum, P. Bor. Amygd. amar. cont. lb. ij. S. V. R. 2 oz. aq. lb. ij.; distil in glass lb. ij.".] By the Coroner.—The bitter almond water made by Dr. Cronin was *not the same as that given in Gray's formula*. By Mr. Tennant.—Dr. Cronin's is much weaker than the concentrated form of bitter almond water. Dr. Cronin's prescription would have been harmless if made up of Mr. French's almond water.

Mr. J. E. Spratt, a dispensing chymist, of 7, Titchburn Street, Haymarket, said he kept *five preparations of bitter almond water*, on shelves in his shop. Three of them were respectively used in French, Italian, and German prescriptions, and two of them in English, which latter were labelled thus: one, "Gray's strong," the other "Gray's." The strongest of these, namely, "Gray's strong," he certainly classed under the head of poison. Saw a gentleman take more than half an ounce of "Gray's" without sustaining harm. Would not give the name of that person; it was done as a joke. Witness was in the habit of dispensing physicians' prescriptions; and knew some in which bitter almond water was an ingredient. Had not been in the habit of preparing Dr. Cronin's prescriptions. Coroner.—Have you seen a prescription in which bitter almond water has been ordered as an internal medicine? Witness.—Oh, yes; a great many. Coroner.—Have you seen any such prescription by an English physician? Witness.—Yes; but I don't know his name. Coroner.—In what combination was it ordered? Witness.—I cannot recollect at this moment.

By Dr. Cronin.—Waving the compound powder of strychnia, witness would have put up Dr. Cronin's prescription.

Dr. Cronin then directed the attention of the court to the various passages in the medical writings of Dr. Thomson, Dr. Christison, and various other eminent medical men, with the view of showing that bitter almond water was once very extensively used in medicine, and is still very much used by confectioners in the flavouring of sweetmeats.

The Coroner then proceeded to sum up

the case to the jury. He said the calamity which had led to that inquiry had been a very deplorable one, and was no doubt calculated to excite very painful feelings in many persons, but they were not to allow their judgment to be influenced by feeling of any kind or description,—by any reports which might have got into circulation, by any statements made prejudicial to any one, but they would direct their attention to the evidence that had been adduced before them, and that only. The subject of the inquest, as they were aware, was Sarah Ellen Collyer, a young lady, 22 years of age; and she expired, according to the evidence, soon after 10 o'clock on Monday evening, the 15th of February, inst. Mr. Pounds, a near relative, was present at her death, together with some other persons. It appeared, that immediately before her death, at least before taking the medicine sent to her by Mr. Corfield, she was in good spirits and cheerful; that having taken the medicine, she immediately exclaimed, "Oh, how queer I feel!" and she shortly afterwards left the room and went towards the garden-door, where she was found by Mr. Pounds in an insensible and motionless condition. Medical aid was immediately called in, but in vain, for she died in a very short time. Now, with reference to the quantity of medicine taken by the deceased, it was proved distinctly that the quantity was less than was ordered in the direction upon the bottle, that was, supposing table spoonfuls were ordered; but, in the prescription and on the bottle it was omitted to be stated whether the spoons were to be large or small—whether dessert spoons, table spoons, or tea spoons. That was much to be regretted; and the practice, more especially when it was aggravated by resulting in consequences dangerous to human life, deserved the gravest reprehension. The examination of the body, subsequently made by Mr. Weathers, and the analyses afterwards instituted by Dr. Scoffern and others, clearly showed, beyond the possibility of a doubt, that the unfortunate young lady died from the effects of prussic acid; died, in fact, from the medicine administered to her. It had been stated that Dr. Cronin held a degree in medicine from the University of Giessen, in Germany; but that was a thing of no value or authority in this country, because degrees of that kind had been bought and sold as commonly as goods at a huckster's shop, and it gave the possessor no right whatever to practise medicine in this country. That matter might, therefore, be dismissed. But Dr. Cronin was a legally qualified practitioner, as an apothecary in London, from a license from the Apothecaries' Society; that, however, did not give Dr. Cronin a right to practise as a physi-

cian. However, Dr. Cronin he (the Coroner) held to be a legally qualified practitioner; and in this case he prescribed and dispensed the medicine himself in the first instance, but afterwards *told the deceased that it might be dispensed anywhere*. The deceased young lady sent the prescription to be dispensed, on the 15th of February, by Mr. Corfield, a chemist in that place. It was taken by a servant, some time in the evening, and with directions that the prescription was to be prepared, with the exception of the pills; and Mr. Corfield, on receiving it, said he would send the medicine. What was Mr. Corfield's conduct on receiving the prescription? Not being acquainted with two of the things ordered in the prescription, he sent, first to Mr. Morson, and secondly to Mr. Bell, to procure the articles he had not in his possession. He knew not what the opinion of the jury might be, but he could attach no blame whatever to Mr. Corfield. He thought Mr. Corfield did, under the circumstances, what was perfectly right, and he could not have sent for the ingredients to two more respectable chemical establishments in this metropolis. He thought Mr. Corfield's conduct exonerated him from blame. Not succeeding in obtaining them at Mr. Morson's, the messenger went to Mr. Bell's, but Mr. Bell, not having the strychnine powder by him, sent a quantity of bitter almond water with a label on the bottle precisely the same as was found in Dr. Cronin's prescription. Mr. Bell knew he was sending it to a chemist. The label bore a Latin name. No message was sent to him indicating for what purpose the thing was to be used. He (the Coroner) was not aware that that was necessary. Mr. Corfield, seeing it ordered by a physician attaching his initials to the prescription, doubted not that he was a legally qualified practitioner, but he (Mr. Corfield) was unfortunate in not possessing the required ingredients. Therefore, with regard to Mr. Bell and Mr. Corfield, he (the Coroner) could not see that they had done wrong. They then came to the evidence of Mr. Morson, who had stated, that if the prescription written by Dr. Cronin had been presented at his establishment *he would not have dispensed it*. Mr. Morson stated that he had never known bitter almond water used as a medicine internally in the course of his experience, which was of 30 years' duration. Nor had Mr. Bell, who had had great experience, ever known that article used as an internal medicine; in fact, they had never seen the thing used in any physician's prescription. Then, evidence of a contrary kind had been introduced. The son of Dr. Venables had procured some bitter almond water from Mr. French, of Holborn, but then

Mr. French was not present to state whether or not he had seen that article prescribed internally in physicians' prescriptions. Dr. Cronin had referred to the works of Christison, Gray, Thomson, Brande, and others, to show that bitter almond water was an internal medicine; and without doubt such references were to be found in those works. Those works were of considerable use and authority, but they were not the authorised Pharmacopœia under which it was presumed that medical practitioners acted, and according to which it was presumed the forms of medicine were usually prescribed. However, they were before the jury, who would attach to them that importance which the evidence appeared to justify. Mr. Spratt was also called, with a view of showing that it was a common thing for bitter almond water to be ordered by physicians in London. Mr. Spratt had given an account of five varieties of bitter almond water, of different degrees of strength, kept at his place of business. Mr. Bell had also mentioned eighteen varieties, the maximum difference of strength of which amounted to upwards of 50 per cent. They (the jury) would attach due importance to those statements; and then they would ask themselves the question whether, in this case, there had been a deviation from what was the ordinary custom, and from what was supposed to be the ordinary practice of physicians in prescribing; and whether, if so, it was attended with danger, so as to make the offence one of manslaughter; because the law said, if a human being lose his or her life through the negligence of a party, especially where that negligence was of an aggravated character, that party, in the eye of the law, to say the least of it, was guilty of manslaughter. If Dr. Cronin, in the preparation of his prescription, had done what was ordinarily done, and if he had adopted a practice which might not be attended with danger, the jury would say that the unfortunate young lady had lost her life accidentally, and without default on his part or any other person. But if, on the other hand, after a careful consideration of the evidence, they should find that there had been a deviation from the ordinary practice, they must come to a verdict which would be perfectly consistent with their opinion, and lean neither to the right hand nor to the left, but deal fair and impartial justice. However innocuous bitter almond water might be in certain forms, yet, made up in other forms, it was a potent and deadly poison. In the mixture produced before them, from which the unfortunate young lady had lost her life, it was proved by Dr. Scoffern that the dose ordered contained 60 minims of prussic acid of the ordinary pharmaceutical strength. Now, it was really most important, and concerned

the welfare of the public intimately, that when prescriptions written as they were, in technical terms, in a false and peculiar kind of Latin, very difficult to be deciphered and comprehended, often even by the initiated,—it was of very great importance that care should be taken by those who had human life placed in their custody; and if care was not taken, it was impossible to say what calamities might not take place. In this case, Dr. Cronin appeared to think that he had not gone out of his ordinary course of proceeding, that he was doing no wrong, and that he was guilty of no neglect in the manner of his prescription. In that view, he (the Coroner) did not think he was borne out by the witnesses examined in the case. He thought the weight of testimony was strongly against the practice which he had adopted. However, on that point the jury would bestow their best attention.

The jury then retired, and after being absent nearly an hour returned into court with a verdict of Manlaughter against Dr. Cronin. The witnesses were then severally bound to appear and give evidence on the trial, and Dr. Cronin was taken into custody by the police.

. From the foregoing report, it would appear that Mr. Cronin was able to procure a witness who would have made up the prescription, although this druggist had not been in the habit of preparing Mr. Cronin's prescriptions, and kept on his shelves no less than five different preparations of bitter almond water, from "*Gray's strong*" to *Gray's mild*. We suppose that he would have known by intuition which of his five almond waters Mr. Cronin intended by *Aqua Amygd. Amar.*; and by some lucky idea he would have acquired a knowledge of the exact composition of Mr. Cronin's compound strychnia powder, which turns out, after all, to be nothing more than common sugar containing the 1-120th part of strychnia. Mr. Spratt, the dispensing druggist who gave this evidence, did not inform the Court which of his five waters was made by mixing six minims of the essential oil of bitter almonds to a quart of water; for it is clear that unless he had a water thus prepared, he would not have been making up Mr. Cronin's prescription, but an ideal substitute of his own! He had seen somebody, whose name he would not give, swallow more than half an ounce of "*Gray's*" without sustaining harm. He had also seen a prescription by an English physician in which bitter almond water was ordered internally, but he did not know the name of the physician, and he could not recollect in what combination it was ordered. We hope this "*non mi ricordo*" witness will have his memory brightened in reference

to these important questions when he appears as a witness at the Old Bailey.

In reference to Mr. Spratt's five waters, the following note, which we extract from the March number of the *Pharmaceutical Journal* (page 445), is of some importance, as it tends to show that at or about the time of the inquest there was a great run upon Mr. Spratt's bitter almond water, so that it was impossible to procure either Gray's strong, Gray's mild, or Spratt's intermediates! "Immediately after the inquest, we sent to Mr. Spratt's for samples of the five waters for the purpose of examination. Mr. Turner, the senior partner, stated *he had no bitter almond water of any kind in the house*, but was about to prepare some." Mr. Spratt is the druggist who, according to a report of the case in the same journal (p. 445), swore "*that on an average he prepared about two prescriptions in a day containing the bitter almond water!*" Had a Croninian prescription been sent about this time, it is obvious that Mr. Spratt would not have been in a position to make it up.

Mr. Morson and Mr. Bell, have had, we should imagine, a much larger field of experience in dispensing chemistry than Mr. Spratt, and we will undertake to say, their knowledge of chemistry (not merely of druggistry) is likely to be more accurate and more extensive. They never saw an English prescription with bitter almond water ordered as an internal medicine; and, like reasonable men, knowing that if "*Aque Amygd. Amar.*" meant anything, it could only apply to a most deadly poison (rendered all the more dangerous from the very great uncertainty respecting its strength), they declared that they would not have made up the prescription.

The case, however, is reduced within a very narrow compass. Mr. Cronin ought to have known what is understood by *Aque Amygd. Amar.* among well-informed chemists, and not have trusted to the possibility of his prescription falling into the hands of a Mr. Spratt, with five varieties, not one of which is probably made like Mr. Cronin's own preparation. Instead of defining the strength, which he ought to have done, as the water is not a preparation to be met with in any British pharmacopoeia, he tells the deceased that it *might be made up anywhere*. In following these instructions she lost her life.

A practitioner may, if he pleases, prescribe for a patient ticunas poison, and a *rara avis* of a druggist may, by possibility, be found with five sorts of "*Aque ticun.*" upon his shelves: but if the prescription should be taken, according to verbal directions, to any shop not rich in poisons; and the dispenser, knowing nothing of the properties of ticunas, mixes it according to order, and the patient

dies,—the party prescribing so dangerous a substance would be held responsible for the death. We cannot be surprised, therefore, at a verdict of manslaughter being returned against Mr. Cronin. We think, however, that a serious responsibility attaches to the druggist in dispensing, in so large a dose, a substance with the properties of which he should have been as well acquainted as Mr. Morson or Mr. Bell. We shall hereafter make some remarks upon this subject.

The subjoined advertisement throws some light upon Mr. Cronin's practice. Mr. Cronin describes himself as a *licensed practitioner* :—

"CONSUMPTION, &c. :—On Anaspaia in the Successful Treatment of Asthma, Consumption, and Bronchitis, with Cases. By D. CRONIN, M.D., Physician to the Dispensary for Consumption. The Rev. J. Wardale, Bedford Terrace, Southampton, whose extreme illness greatly excited the alarm of his family and friends, says, in a letter addressed to the author, 'I firmly believe your system, if applied in time, is equal to most pulmonary diseases, and that I owe my present existence to your simple and efficacious mode of treating chest diseases.' Equally strong testimonials are daily reaching the author, who may be consulted at his residence, 14, Leicester Place, Leicester Square."—*Times*.

Correspondence.

DR. SEARLE'S WORK ON THE PHILOSOPHY OF LIFE, HEALTH, AND DISEASE.

[In our review of Dr. Searle's recent treatise, on the "*Philosophy of Life, Health, and Disease*," we felt ourselves under the necessity of objecting to certain features in his practice, as well as to several of his theories; but we had no wish to question his good sense, or to detract from his good intentions in publishing the work. We therefore give insertion to the following passages from his treatise, with which he has furnished us.]

Page 78. — "I shall now proceed to explain the condition of the parts concerned, and the character of those all-prevailing affections, *congestion, irritation, and inflammation*; which I trust I shall soon make apparent constitute the very essence and parent of every disease.

"*Congestion; its nature and causes.*—This, I must first observe, is a condition of passive plethora, or preternatural distension of the veins of the part affected, and must ensue, as a general condition of the veins, to a greater or less degree, upon every cause of

debility or depreciation of the heart's function: and must exist also as a local affection upon the operation of any cause of local debility, influencing the circulation of the part. The amount of the heart's force or power in health, we may presume to be limited to the fulfilment of its functions; its contraction propelling the blood through the arteries to all and every part of the system, and its dilatation (enlarging its cavity as a sucking pump) drawing the blood back again into it, on its return by the veins, into which it is conveyed by the action of the capillaries. The blood is thus kept in constant circulation. But should the heart's power be reduced, or the quantity of blood generated be in excess of its power freely to circulate it, it necessarily follows, that as its impulse is less at the extreme points of the circulation than elsewhere, here will remora or congestive accumulation ensue, and that the veins will be the seat of it, as the arteries have a contractile and vital power extending to, and augmenting in, their terminal and capillary extremities; which power the veins do not possess. The congestion which results may be slight, temporary, and unimportant; or it may be of marked effect, and productive of effusion of the aqueous portion of the blood, transuding through the coats of the congested vessels: or the blood itself may be extravasated, or the vessels become ruptured, as in apoplexy; or otherwise, the distension may give rise, in certain conditions of the blood, to inflammation, or fever. The congestion attendant on local debility may ensue upon the exhaustion which succeeds to excess of excitement, or to mechanical obstruction of the veins of the organ or part affected; or it may be developed by cold, or other debilitating local agency. Enough has now been said to give a pretty clear conception of what is meant by congestion, and how it may be induced; as well as to render it apparent how, as a determining cause of local congestion, debility, natural or acquired, in an organ, or part, predisposes to its attack: and thus some persons are said to be subject to determinations of blood to the head, and others again to inflammations of the bowels, chest, or other part.

*"Inflammation; its nature and cause.—*Such being congestion, what is inflammation? This, in opposition to the passive affection of the veins, is one of active excitement of the arteries, and is thus brought about. Congestion in the veins is here also the primary link in the chain of effects. This, then, taking place in certain conditions of the blood, as to quality or character favouring the development of excitement or inflammation, (there being in this case no effusion or an insufficiency of it

for the relief of these vessels, being perhaps a condition, though this may probably be dependent on the state of the blood,) the free ingress of blood into the veins from the capillary or terminal arteries is prevented, in consequence of which the arteries become distended; and from this cause, and in consequence of certain chemical changes taking place in the blood, unduly retained in them, which should take place at a more advanced state of its circulation, these vessels are excited into exalted action, or inflammation, as it is called; and hence, the augmented sensibility, the heat, throbbing, and swelling of a part inflamed, whatever that part may be: and which every person who has suffered by whitlow, or an inflamed finger, knows full well by experience. The greatest amount of exalted action compatible with the vitality of the part we assume to be inflammation; beyond this, mortification follows, or a series of processes take place destructive to the organisation of the part,—as softening of the structure, if it be in the substance of the brain; or the formation of pus and matter, and ulceration of other parts; the deposition of interstitial matter, or hardening in some cases: or, finally, the effusion of serum or transudation from the vessels which results in exhausted power.

*"Irritation; its nature and cause.—*But there may, and I believe does exist, a condition intermediate between that of the active condition of the arteries in inflammation, and the passive one of congestion of the veins; which may be well termed irritation, and which, when general, constitutes the condition of fever. This is dependent upon the same causes and pathological condition of the vessels, namely, the retardation of the blood in the capillaries, and the excitement of the arteries, but not in an equal or so intense a degree as in inflammation; partial effusion from the veins in some cases; increased secretion from the part in others; or the condition of the blood being less favourable to its development, and a less amount of cause being perhaps the determining causes of the difference. And thus it is, for instance, that secretion is increased by a certain amount of the organ's stimulation, but is arrested by the more active condition of its excitement, as in inflammation. Hence also it is, that cold in moderation stimulates and excites the system, but in excess paralyses the functions, and induces deprivation of power. Thus, also, it is, that the employment of an organ within due bounds augments its vital condition, and develops its nutrition and power; and thus the exercise of a man's faculties within certain limits strengthens his mind, and augments his capacity: exceed this limit, and irritation of the brain ensues, and excited intellect, or insanity, follows; and

eventually inflammation of the brain, or effusion and palsy, take place.

"Enough, I am of opinion, has now been said, to render the subject fully understood, and to make good my assumption, that *irritation* consists in a peculiar condition of the blood-vessels of the part affected, and not as an affection of the nervous system. That this peculiar condition of the capillary blood-vessels consists in a state intermediate between that of congestion and inflammation; and that one or other of these affections, or conditions of the blood-vessels, locally situated, or existing generally, constitutes the primordial condition or essence of every disease, I trust eventually that I shall be able to make apparent. I shall now, with this explanation, proceed to explain the operation, and influence on the system, of calomel and bloodletting, the two most powerful agents we possess in the cure of disease, and also the most valuable, if judiciously employed; and as it is indispensable to understand the nature of a disease in order to determine the principles for its treatment, so is it necessary fully and perfectly to comprehend the mode of operation and the power of our remedies, in order to apply them successfully to practice; which will, I trust, be accepted in apology for my saying so much as I intend to do upon these subjects."

ON FLOODINGS AFTER DELIVERY.

SIR,—I find myself again under the necessity of requesting you to furnish me with an opportunity of laying before your readers another communication on "uterine hæmorrhage," in order that I may have it in my power to rectify in so far a misstatement which has been lately made in an influential quarter, with regard to the result of the discussion which took place on this subject between me and certain of your correspondents in the *MEDICAL GAZETTE* during the years 1845 and 1846.

Dr. West, in his "Report on the Progress of Midwifery, &c.," published in the last number of the "British and Foreign Medical Review," after giving a very succinct account of my views on "floodings after delivery," as published in the *MEDICAL GAZETTE*, and having stated, in so far correctly, that "I conclude that the introduction of the hand into the uterus is not only useless but mischievous," adds the following remark of his own:—"These extraordinary assertions are refuted by Dr. Ramsbotham and Mr. Copeman, who ably vindicate the usual mode of practice." Now it is no doubt true, with regard to Dr. Ramsbotham, that, after the publication of my first paper on the subject, he called in question certain of the practical conclusions

which I had ventured to draw, and gave explanations respecting a case of his own, some of the features of which I had appeared to misapprehend; but as, after the appearance of the second and more elaborate exposition of my views, Dr. R. did not think proper to resume the discussion, it cannot be fairly said, that this eminent authority has refuted my assertions, or vindicated the usual practice which I had condemned. With respect to Mr. Copeman, the following extracts are copied from his last paper on the subject:—"I think few practitioners of experience would differ from Mr. Adams in the treatment he advises for floodings after delivery, although they may be at variance with him as regards the *rationale* of it. * * * With respect to the introduction of the hand to promote contraction of the uterus, I quite agree with Mr. Adams in thinking it ought never to be done except for the removal of the placenta or clots: indeed, I have never had occasion to resort to it for the removal of clots, and am inclined to believe it generally unnecessary. I believe, moreover, that it is by no means a general mode of practice by those who understood the art of midwifery.*" So far, then, it appears, is Mr. Copeman from wishing "to refute" my conclusions as to the mischievous consequences resulting from what certainly was until lately the usual practice, namely, the introducing of "the clenched hand" into the uterus in cases of floodings, that he even goes beyond me in restricting manual interference: in fact, Mr. Copeman's practical conclusions confirm in a very decided manner the truth of an observation which I made in my second communication on this subject,† that, "in a well-regulated mind, experience and reflection sometimes counteract the workings of an erroneous principle," and that "it sometimes fortunately happens that men of excellent common sense, although wrong in theory, are right in practice." That Mr. Copeman is a gentleman to whom the above character is highly applicable, no one who carefully reads his papers in the *MED. GAZ.* will question.

It is only with regard to the *rationale* of the practice, that any difference of opinion exists between Mr. Copeman and me; he still holding to the old hypothesis of uterine torpor, based upon the Hunterian theory regarding the construction of the placenta. To this part of Mr. Copeman's communications, I ought, perhaps, to have replied at the time; but a multiplicity of professional and literary engagements rendered me then indisposed to resume the discussion. On the present occasion I must also waive the subject; but, if you are willing to afford me

* *MED. GAZ.* June 12, 1846.

† *MED. GAZ.* p. 149.

a few pages in your periodical for the purpose, I shall send you very soon a brief statement of the reasons which still satisfy me that those physiologists of the day who still hold that there is a vascular connexion between the mother and *fœtus in utero* must be mistaken.

As it would appear that the profession is still strangely divided in opinion on this question, perhaps you will think that the discussion of it will prove not uninteresting to your readers.—I remain, sir,

Yours, obediently,
FRANCIS ADAMS.

Banchory, Feb. 14, 1847.

* * We have omitted those portions of our correspondent's letter which did not appear to us to bear on the question at issue.

Medical Intelligence.

FRENCH MEDICAL SCHOOLS, 1847.

THE number of students in the French Schools of Medicine is estimated at about 1800. In the three Universities—

Paris . . .	800
Montpellier . . .	175
Strasbourg . . .	77

Among the Preparatory Schools—

Amiens . . . 48	Lyons . . . 73
Angers . . . 37	Marseilles . . 38
Arras . . . 32	Nancy . . . 32
Beaucaçon . . 39	Nantes . . . 45
Bordeaux . . . 51	Orleans . . . 36
Caen . . . 22	Poitiers . . . 24
Clermont . . . 28	Rennes . . . 70
Dijon . . . 30	Rouen . . . 42
Grenoble . . . 31	Toulouse . . . 72
Limoges . . . 32	Tours . . . 41

MEASLES AND SMALL-POX IN BELGIUM.

MEASLES and small-pox are at present committing great ravages in some of the towns of Belgium. In Liège during the month of January there were 300 deaths.

MORTALITY IN THE EAST INDIES.

IN the Bengal Presidency, in 1844, the ratio of ordinary deaths to the strength of the corps was,—as regards Europeans, 5·76 per cent., and, as regards natives, 1·17 per cent.; the ratio of deaths by cholera, 1·72½ per cent., and 0·27 per cent., respectively; the ratio of deaths general to the strength, 7·48½ and 1·44 per cent.; and the ratio of the number invalidated to the strength, 3 and 1·2 per cent. In the Madras presidency the ratio of ordinary deaths was 1·971 and 1·456 per cent. respectively; the ratio of deaths by cholera, 0·628 and 0·804 per

cent.; the ratio of deaths generally, 2·600 and 2·261 per cent. respectively; and the ratio of invalidated, 1·529 and 1·184 per cent. respectively. In the Bombay presidency the ratio of ordinary deaths was 5·344 and 1·193 per cent. respectively; the ratio of deaths by cholera, 1·309 and 0·158 per cent.; the ratio of deaths generally, 6·653, and 1·351 per cent.; and the ratio of the number invalidated, 2·181 and 1·788 per cent. respectively.

OBITUARY.

DR. M. COTTEREAU.

DOCTOR CATTEREAU, the friend and associate of Raspail, has recently died in Paris.

M. D'ARCT.

IN December last, at Rio Janeiro, M. Felix D'Arcet. The deceased was one of the Commissioners appointed by the French Government to examine and report on the plague of Egypt. His death was occasioned by burns arising from the accidental explosion of gas in his apartment.

Selections from Journals.

MIDWIFERY.

EFFECTS OF THE ERGOT OF RYE ON THE PARTURIENT FEMALE AND HER OFFSPRING.

WITH a view of throwing some further light on the action and effects of the ergot, Dr. Samuel L. Hardy, of the Dublin Lying-in Hospital, has kept accurate notes of a large number of cases in which this drug has been administered during parturition. Several of his observations are of considerable value.

Time at which the action of the ergot on the uterus commences.—From comparing tables which the author has drawn up, it appears that, in some cases, ergot acts on the uterus so soon as seven minutes after its administration, whilst in others a much longer period of time is required; but in the generality, from about ten to fifteen minutes may be stated as the average. In those cases where the children have been expelled alive, Dr. Hardy has always observed the action of ergot on the uterus to commence within twenty-five minutes. On the other hand, when a longer period than this elapses before the uterus takes on action, the use of instruments has been necessary to perfect the delivery, or the children have been dead born. In some instances the ergot has produced in the uterus a kind of tonic contraction, without any effective expelling pains. In accor-

dance with what has been observed by others, the author has noticed that, in those cases where the ergot acts beneficially, its exhibition is followed by strong expulsive pains, which gradually increase in frequency, so that, in fact, they may be said to run into each other, there being no distinct interval between them.

Effect on the pulse.—In nineteen cases of those which Dr. Hardy has recorded, there was a marked diminution in the frequency of the mother's pulse following the administration of ergot, and this effect generally began to take place from about fifteen minutes to half an hour. In all these instances where the depression of the pulse occurred, the foetal heart underwent a similar change. Hence the author is led to inquire, is ergot a safe remedy in a case where the woman is greatly reduced by hæmorrhage arising from relaxation of the uterus after delivery? He mentions a case bearing upon this point, where a draining had continued for several hours after the expulsion of the placenta, by which the patient was greatly weakened: the usual dose of powdered ergot was given, and was followed almost immediately after by most alarming depression, requiring the administration of the most powerful stimulants. In several of the cases the depressed state of the circulation continued for several days, notwithstanding, in some instances, inflammation of the uterus followed delivery; and the uterine tumor not unfrequently remained much larger than natural, even where there was no reason to suspect the presence of inflammation of that organ.

Effects of ergot on the foetal heart.—The effect of ergot on the foetal heart is still more remarkable than on the maternal pulse, and, in a practical point of view, deserves much more serious investigation.

In a great majority of the author's cases a diminution in the foetal heart's pulsations followed the administration of ergot. The period at which this effect begins to be produced varies from about fifteen minutes to half an hour, sometimes a little sooner, and occasionally at a later period. The most common effect, and usually the first the author has observed, is a diminution in the frequency of the pulsations; this is succeeded, after some time, by an irregularity in its beats, which irregularity continues more or less until the sounds intermit, and, at length, after a variable period, become quite inaudible. Dr. Hardy has been led by his observations to the practical inference that in those cases where the number of the foetal heart's pulsations have been steadily reduced below 110, and at the same time, *with intermissions*, the child will be rarely, if ever, saved, although its delivery should be effected with the greatest possible

speed. But the mere depression of the foetal heart below 110, *without intermissions* is not, in itself, sufficient to cause this result, as instances have occurred where the number of pulsations has been still more reduced, (in one case as low as 56), and yet by speedy delivery, and adoption of the usual remedies, the children have been saved. But in none of these cases was there a *steady, distinct, and well-marked intermission*. The knowledge of these facts points out the necessity of watching closely the state of the foetal heart after the administration of ergot, as delay beyond a particular time cannot be allowed with impunity to the life of the child. Should the case in other respects be eligible for the application of the forceps or vectis, in order to save the child, it must be had recourse to within a certain period, which can only be known by the careful use of the stethoscope. The author's observation fully coincides with those of Dr. Beatty, who fixes the limit beyond which the child will rarely be born alive at two hours. To this rule he has met with but three exceptions. But death of the foetus may occur long before the expiration of two hours. In two instances the children were lost, although only twenty minutes in one, and twenty-five in the other, had passed from the administration of the ergot, to their expulsion. In these instances the depressing effects of the ergot are so great that frequently after birth a considerable time elapses before the children can be perfectly restored; and Dr. Hardy has observed that infants born in a weak state, where no ergot was given to cause their expulsion, have been restored to animation with much less difficulty than in those cases in which this medicine was administered during labour. Hæmorrhage after the birth of the child is an occurrence the author has never met with in any case where the uterus was sensibly affected by the ergot during labour.

With some few exceptions, the women had generally good recoveries. Of those who were attacked with inflammation all recovered but two. One was a case of retained placenta where the hand was introduced; this patient died of uterine phlebitis. In the second there was inflammation of the peritoneum and uterus.

The children who were born alive, all, with one exception, did well. In this case delivery was effected by the forceps, as the foetal heart had fallen so low as 100 from the effect of the ergot. This statement refers only to those cases where complete restoration was accomplished after delivery."—*Abridged from the Dublin Journal of Medical Science.*

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Feb. 20.

BIRTHS.	DEATHS.	Av. of 5 Wint.
Males.... 708	Males.... 655	Males.... 542
Females.. 686	Females.. 598	Females.. 526
1382	1253	1068

CAUSES OF DEATH.	Winter	av.
ALL CAUSES	1253	1068
SPECIFIED CAUSES	1232	
1. Zymotic (or Epidemic, Endemic, Contagious) Diseases ..	156	83
<i>Sporadic Diseases, viz.—</i>		
2. Dropsy, Cancer, &c. of uncertain seat	100	112
3. Brain, Spinal Marrow, Nerves, and Senses	167	170
4. Lungs and other Organs of Respiration	514	354
5. Heart and Bloodvessels	68	32
6. Stomach, Liver, and other Organs of Digestion	77	70
7. Diseases of the Kidneys, &c.	14	8
8. Childbirth, Diseases of the Uterus, &c.	10	12
9. Rheumatism, Diseases of the Bones, Joints, &c.	14	7
10. Skin, Cellular Tissue, &c.	3	2
11. Old Age	78	81
12. Violence, Privation, Cold, and Intemperance	31	30

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	8	Convulsion	51
Measles	6		
Scarlatina	21	Bronchitis	134
Whooping-cough ..	41	Pneumonia	125
Typhus	32	Phthisis	160
		Dis. of Lungs, &c.	18
Dropsy	13	Teething	8
Sudden deaths ..	10	Dis. Stomach, &c.	9
		Dis. of Liver, &c.	13
Hydrocephalus ..	44	Childbirth	6
Apoplexy	22	Dis. of Uterus, &c.	4
Paralysis	29		

REMARKS.—The total number of deaths was 185 above the winter average, indicating a very sudden increase of mortality from the previously severe weather. The deaths from pulmonary diseases are considerably above the average and still on the increase.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer	29.74
" " Thermometer	45.7
Self-registering do. ^a max. 65.5 min. 31.2	
" in the Thames water — 44.2 — 33.5	
^a From 12 observations daily. ^b Sun.	

RAIN, in inches, '54: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 7.7° above the mean of the month, making a fluctuation of 20° in the two weeks.

BOOKS RECEIVED FOR REVIEW,

Continued from Dec. 11, 1846, last vol. p. 1043.

DR. WHITE'S Treatise on Plague and Quarantine.—Dr. T. Mayo's Clinical Facts and Reflections.—Turner's Chemistry, by Liebig and Gregory, 8th edition. Part 1, Inorganic Chemistry.—Relations of the Physician to the Sick, by the late C. W. Hufeland.—Dr. Starks's Report on the Mortality of Edinburgh and Leith.—

Dr. Starks's Inquiry into the Sanatory State of Edinburgh.—Digest of Evidence on the Andover Union, by a Barrister.—Hassall's Microscopic Anatomy of the Human Body, Parts 6 and 7, Jan. and Feb.—Chelius's Surgery, Part 15.—Dr. Latham's Lectures on Subjects connected with Clinical Medicine, Vol. 2.—Owen's Lectures on Comparative Anatomy.—Braithwaite's Retrospect, July to Dec. 1846.—Grove on the Correlation of the Physical Forces.—Dr. Williams on the Tongue.—Dr. West's Report on the Progress of Midwifery.—London Medical Directory, 1847.—Dr. Prichard's Researches on the Physical History of Mankind, Vol. 5.—Dr. Alderson's Practical Observations on some of the Diseases of the Stomach.—Curabilité de la Phthisie et des Scrofules, par A.-M. Bureau-Riofrey, M.D.—Dr. Wright's Course of Clinical Medicine.—Facts on Sanatory Reform, by Dr. J. C. Redford.—Report by Committee of Health of Town's Association.—Copland's Dictionary of Practical Medicine, Part XI.—Ranking's Half-Yearly Abstract, Dec. 1846.—London and Provincial Medical Directory.—Dr. Dowler's Experimental Researches on the Post-mortem Contractility of Muscles.—Swan on the Nature and Faculties of the Sympathetic Nerve.—Swan's Inquiry into the Action of Mercury on the Living Body.—Wharton Jones's Manual of Ophthalmic Medicine and Surgery.—Mr. T. S. Lee on Tumours of the Uterus.—Dr. G. C. Child on Indigestion.—Robinson on the Inhalation of the Vapour of Ether.—Proceedings of the Lincoln Lunatic Asylum, with Appendix.—Dr. Hart's Observations on the History and Treatment of Dysentery, 2d edit.—Erasmus Wilson on Diseases of the Skin, 2d edit.—Brett on Cataract, Artificial Pupil, and Strabismus.—Dr. J. F. Duncan on the Force and Fallacies of Medical Statistics.—Dr. J. M. Neill on Medicines, their Uses and Mode of Administration.—Body and Soul, or Life, Mind, and Matter, by G. Redford.

NOTICES TO CORRESPONDENTS.

"Alpha."—We know of no plan by which our correspondent can become a legalized practitioner, excepting by his taking out a certificate from the Apothecaries' Society. If a petition be addressed to the Court of Examiners, possibly some portion of the curriculum might be dispensed with, as our correspondent has been long in practice.

"Cavendish Society."—A full account of the objects of this society will be found at page 434 of our last volume.

In the following number we shall commence the publication of the Gulstonian Lectures, recently delivered at the College of Physicians, by Dr. Baly.

We are obliged to Mr. Stephenson for forwarding the placard to us. The quack is unworthy of notice.

Mr. Atchinson's hospital report next week.

Dr. Wright's communication has been received, and will be inserted as early as previous arrangements with other correspondents will permit.

"A Subscriber to the Medical Directory" should address his complaint to the Editor of the work. Dr. James Black's letter with the enclosure has come to hand.

A large number of communications on Ether are sent to us weekly. As so much has already been published on the subject, we would advise our correspondents to confine their reports to those cases only which present facts that have hitherto remained unnoticed.

The cases forwarded to us by Mr. Stanley will be inserted.

We shall be glad to receive the remaining portion of Dr. Snow's paper, and will make arrangements for its insertion as early as possible.

RECEIVED.—Mr. J. T. Clover.—Mr. Ellis.—Mr. Howitt.—Mr. J. Morgan.

Lectures.

GULSTONIAN LECTURES,

*Delivered at the College of Physicians,
February, 1847,*

BY WILLIAM BALY, M.D.

Physician to the Millbank Prison, and Lecturer
on Forensic Medicine at St. Bartholomew's
Hospital.

LECTURE I.

INTRODUCTION.—*Reasons for choosing Dysentery as the subject of these Lectures—Unsettled state of Medical Science with respect to the Morbid Anatomy of Dysentery—Structure of the mucous membrane of the large intestine in the healthy state—The solitary glands—Morbid changes in the large intestines in Dysentery, as observed in the Millbank Prison—Three degrees of morbid change—Acute and chronic stage of each described—Nature of the process by which the morbid changes are effected.*

SIR,—When I received from you, as President of this College, the appointment of Gulstonian Lecturer for the present year, I was deeply sensible of the honour conferred on me; but I was conscious also of the weighty responsibility that honour brought with it. I felt, that to address the audience which generally assembles to hear the annual lectures in this theatre, was no trivial task; and that, undertaking this task, I must strive, if possible, so to perform it, as not to bring discredit on the high character of the Royal College of Physicians, into the fellowship of which I had recently been admitted.

This feeling made me anxious that the subject of my lectures should be well chosen. My first hope was, that I might find a suitable topic amongst the more recent discoveries or theories in physiological and pathological science. But, before my choice was made, I was led to consider whether my own observation of disease had not made me acquainted with some new fact, or at least taught me some new mode of regarding facts long known, which I might fitly communicate to the fellows and members of this College, and to an account of which they might listen with interest. I knew that my experience, compared with that of many who would be my hearers, was very limited; but, on the other hand, I believed that the field in which I had chiefly acquired it, produced some forms of disease rarely seen elsewhere, and presented others under unusual conditions. On further considera-

tion, other reasons suggested themselves to my mind, which finally determined me to devote these lectures principally to a history of *Dysentery*, as it has shown itself at the Millbank Penitentiary. The reasons to which I allude were the following.

Two hundred years ago, dysentery was one of the most prevalent and fatal diseases of London. It now ranks amongst those which are most rare. The great improvement of the physical condition of the metropolis and its neighbourhood during the last two centuries, has doubtless produced this remarkable change. But I had learned from the observation of the diseases prevailing in the great Government Prison of Millbank, that the endemic cause or causes of the dysentery which prevailed in the time of Sydenham,* Willis,† and Morton,‡ have not been wholly eradicated,—that they still lurk in some of the least healthy districts, and, although their power is weakened, are still capable of producing their worst effects when they act on persons of enfeebled nervous and nutritive energies. And I thought some interest might be felt in seeing how the descriptions of the epidemic dysentery of London, given by the three great physicians whose names I just now mentioned, are verified by the occasional reappearance of the same disease, with identical characters, in at least one spot in this city at the present time. I knew, too, that Dr. Latham's elegant and graphic description of the epidemic which prevailed at the Penitentiary in the year 1823,—a work as remarkable for the many profound views of disease it suggests as for the charms of its style,—was not forgotten, and I hoped that a medical account of the health of the establishment, since that period, might be received with interest.

But the foregoing were not the only reasons that led me to the choice of *Dysentery* for the subject of these lectures. From the perusal of many of the almost innumerable treatises on the disease, I had learned, that, although, like other epidemic maladies, it had been the subject of discussions as frequent as its ravages have been general, several questions, respecting its morbid anatomy, its causes and its relations to other diseases, still remained in an unsettled state; and there seemed to be grounds for believing, that a measure of aid towards reaching the truth as to some of these questions might be derived from observations made in a field where the external conditions affecting the health are, for the most part, known and unvarying, and where few disturbing influences come into play. I conceived, too, that a comparison of the dysentery of temperate climates, with its more formidable

* Opera Universa, Lugd. Bat., 1726, p. 178.

† Pharmaceutice Rationalis, Geneva, 1680, p. 77.

‡ Pyretologia, Geneva, 1727, p. 160.

representative in tropical countries, would not be devoid of interest. And, lastly, I felt convinced that the fact of the prevalence of dysentery at certain seasons amongst the general population of this city, though in a mild form, and the importance of arresting it, even in this form, at its earliest stage, could not be urged too frequently.

This statement of the reasons which determined my choice of a subject, will serve to indicate the principal topics it is my purpose to discuss.

I shall first call the attention of the College to the still unsettled state of medical science, with respect to the morbid anatomy of dysentery.

When we compare the opinions held by the earliest authors who have treated of this disease with the doctrines of even recent pathologists respecting it, we cannot but feel surprised at the slow advance which appears to have been made towards a certain and accurate knowledge of the internal lesion on which its most characteristic symptoms depend. Hippocrates said, that in dysentery there was "an acrimonious purging with corrosion and ulceration of the intestines and bloody stools." This view of the nature of the disease was adopted by Galen, and by nearly all the writers who followed him, down to the middle of the 18th century. About that time, when morbid anatomy began to be cultivated more generally, though still imperfectly, the state of the larger intestines in those who died of dysenteric affections became the subject of numerous and varying descriptions. At length, the belief in the existence of ulceration, as the lesion characteristic of the disease, was wholly rejected by many systematic writers; and in opposition to that theory two others were set up. According to one, the local disease consists in congestion and tumefaction of the mucous membrane, especially in patches of some extent, so as to form dark red or purple prominences, called by the French writers "*Boursoufflures*," by the Germans "*Quaddeln*," or "*Protuberanzen*," from the surface of which the epithelium becomes detached by desquamation. This seems to be the idea entertained by Fournier and Vaidy*, by Chomel†, and by two very recent writers Guérétin‡, and Siebert§. The other theory was, that dysentery consisted in an erythematous inflammation of the large intestine which quickly terminated in sphacelus. This is the account Cruveilhier|| gives of the morbid anatomy of dysentery. Rokitsky's

description includes these two forms of lesions. The "*dysenteric process*," according to this very accurate German observer, consists in inflammation and swelling of portions of the mucous membrane and sub-mucous tissue,—generally, and in the first instance always, of those portions which project into the cavity of the intestine between the sacculi. This inflammation and this swelling are at first attended with an exfoliation of the epithelium, and at length terminate in sphacelus of the affected part of the mucous membrane*. Such are the main features of the process as described by M. Rokitsky. All these modern writers, but especially MM. Fournier and Vaidy, Chomel, Siebert, and Cruveilhier, regard ulceration as having no essential part in the diseased process which constitutes dysentery, and as being of very rare occurrence. It is remarkable, too, that M. Cruveilhier especially insists on the follicles or solitary glands of the large intestine having no share in the disease. "It is not," he says, "a follicular inflammation."

Rokitsky, also, who described an enlarged and ulcerated state of the solitary glands of the colon as the characteristic lesion in "*chronic diarrhoea*," and notices the occasional appearance of irritation and softening of the follicles in cases resembling dysentery, evidently inclines to the belief that these latter cases are not instances of true dysentery.† Yet, during the last year, another author, who has manifestly observed with great diligence and intelligence, Dr. Parkes, has published a minute description of the morbid anatomy of the disease, and has drawn from it the following conclusions: "Admitting the inflammatory nature of the dysentery, the peculiarity about it," he says, "seems to be, that ulceration of the large intestines occurs with great rapidity, and, except in one rare form, a case never presents true dysenteric symptoms without ulceration being present. It is evidently not from the severity of the inflammation that ulceration is so rapidly and so constantly produced, for it occurs in the comparatively slight cases." * * *

"It is owing to the glands of the mucous membrane being particularly implicated in the inflammatory action."‡ Here, then, we have the statements of an able observer directly opposed to those of two of the most eminent morbid anatomists of our time. How are these contradictions to be reconciled? Does difference of climate cause a difference in the structural changes attendant

* Dict. des Sc. Med. art. Dysent. 1814.

† Dict. de Méd., 1823, art. Colite.

‡ Zur Genesis und Therapeutik der rothen Ruhr, p. 98-114, 1839.

§ Archives Génér. de Méd. t. vii. p. 52, 1836.

|| Anatomie Pathologique, xl. livraison.

* Handbuch des Pathologischen Anatomie, 3te. Band, p. 258-265.

† Op. citat. p. 260.

‡ Remarks on the Dysentery and Hepatitis of India, by E. A. Parkes, M.B. London, 1846, p. 3-4.

on the disease? Are distinct epidemics characterized by distinct local lesions? Have two or more distinct diseases been confounded under the one term of dysentery? Or are the various local changes described by different writers only so many forms of the same diseased process, this process being modified in particular instances by constitutional peculiarities of the patients or other circumstances?

Some aid towards solving these questions may be derived from an examination of the morbid anatomy of dysentery, as it has shown itself at Millbank. We shall at least gain data for an inquiry concerning the influence of climate on the disease—an inquiry, the result of which I will anticipate by stating that all the well marked-varieties of structural change in the large intestines observed in tropical dysentery, are found likewise in fatal cases of the disease occurring in our own climate.

From a study of the various anatomical lesions met with in cases of dysentery at Millbank, and their relations to one another, we shall also find grounds, I think, for giving an *affirmative answer* to the question, whether these various lesions are modifications of the same diseased process.

But to afford solutions to these questions is not the only object with which I enter upon a description of the structural changes which have offered themselves to my observation in the bodies of those who have died of dysentery in the prison at Millbank. I shall endeavour to show that the opinion which is now, I believe, generally entertained respecting the mode of formation of ulcers in the internal coat of the intestines is, to a certain extent, erroneous,—that these solutions of continuity in the mucous membrane, whatever their size and shape, are produced, at all events at their commencement, *by a process of mortification and sloughing, and not by simple ulceration.*

With a view to facilitate the description of the alterations which the mucous membrane of the large intestine undergoes in disease, it will be useful to glance for a moment at its structure in the healthy state. To enter upon a minute account of the anatomy of the mucous membrane of the intestinal canal generally, is unnecessary, since this subject was treated of most fully by Dr. Todd, in the Croonian lectures for 1842.

The different component strata which are found at every point of the mucous membrane of the large intestine are, the *epithelium*, the *membrana propria* on which the epithelium rests, and the *vascular tissue* which is subjacent to both these structures.

There are besides seen, here and there, small glandular bodies scattered through the substance of the mucous membrane, and

known as the *solitary glands* of the large intestine.

The disposition of the *membrana propria*, a transparent homogeneous structure, which has also been named the “basement membrane,” and “intermediate membrane,” determines the character of the surface of the mucous membrane. In the large intestines it dips inward at innumerable points very close to each other, forming so many blind tubes like the fingers of a glove. These are the *simple tubular follicles*, the openings of which are seen when the surface of the mucous membrane is examined with a lens.

The *epithelium* invests every part of what would otherwise be the free surface of the *membrana propria*, those parts which dip inwards to form the follicle, as well as those which look towards the cavity of the intestine. This epithelium is of the kind called by Henle, “cylinder epithelium,” but more appropriately, by Dr. Todd, “columnar epithelium.” That is to say, it is formed of little pillar or column-shaped particles placed side by side.

The *vascular tissue* subjacent to the *membrana propria* is composed of a close network of capillaries, and of a mass of amorphous matter, in which a large number of the small bodies called “*nuclei*” or “*cytoblasts*” are embedded. This amorphous substance with *nuclei* is capable of being split into fibres, and passes by a gradual transition into the fibrous connecting tissue, which, together with blood vessels, forms the great bulk of the cellular coat of the intestine. The vascular layer of the mucous membrane is a part of great importance. It supplies the material not only for the nutrition of the *membrana propria* and the epithelium, but also for the formation of all the secretions poured out on the inner surface of the intestine: for the *membrana propria* has no vessels of its own, and allows none to pass through it. Like the epithelium, it is a non-vascular tissue, although, as it lies in close contact with the highly vascular stratum I have just been speaking of, it is freely supplied with nourishment.

Such, then, are the structures composing the mucous membrane of the large intestine, except at those points where the solitary glands exist. The condition of these structures is not, however, always the same. The epithelium is from time to time thrown off, and mingling with the liquid exudation of the membrane, forms the healthy mucus which lubricates the canal. At times, too, apparently when the mucous membrane has been the seat of some vascular excitement, the tubular follicles are seen, no longer lined with a regular layer of columnar epithelium, but filled at their deepest part with

Granular matter containing bodies like the nuclei of cells, and towards their mouths with cells or globules identical in appearance with those which chiefly compose the secretion of all mucous membranes when they are the seat of irritation.

The structure and functions of the *membrana propria* and epithelium, and of the follicles they form, seem to be pretty well understood; but respecting the *solitary glands* our knowledge is at present very imperfect. They have been described as flask-shaped sacs, opening by a small orifice on the surface of the mucous membrane; and they have been supposed to differ from the glands of the small intestine in having constantly open mouths. But after repeated examination of these bodies with the simple microscope, I have satisfied myself that the glands of the large intestine are sometimes open, and at other times closed, and that in this respect, therefore, they resemble exactly the glands of the small intestines, both those known as the solitary glands, and those which are collected into groups, and are termed the glands of Peyer, or *glandulae agminate*.

When they are closed their existence cannot be recognized on the surface of the intestine by the naked eye, but with the simple microscope a spot can be perceived where the orifices of the tubular follicles are wanting, this spot being slightly raised or depressed according as the gland is completely or only partially filled with its secretion. When the gland has recently opened, the orifice is generally visible to the naked eye, it appearing as a dark depressed point sometimes surrounded by a raised margin. It is in this state that the glands are most easily seen, and they are generally described as they appear in this condition.

When the sacs are quite empty no raised margin exists, but a peculiar appearance presents itself, if the surface of the mucous membrane is viewed with the aid of the simple microscope, and with transmitted light. In the situation of each gland, a number of the tubular follicles are seen radiating from a centre which is depressed below the level of the surrounding membrane. The orifice of the gland is sometimes seen in the midst of these radiating follicles. At other times it cannot be distinguished, having, I suppose, become closed in preparation for the production of the contents of the gland. This radiating disposition of the tubular follicles, which was described and figured in the year 1737*, by an old Italian anatomist named

* Dominici Gusmani Galeati, De Cribriformi intestinorum tunica in the *Commentarii Institut. Bonon.* t. i. Opuscula, p. 359. I met with the reference to the paper of Galeati in the "*Etudes Hydrotomiques et Micrographiques*" of M. Lacaze, who has given copies of some of Galeati's figures.

Galeati, seems to be owing to the follicles immediately surrounding the gland being drawn inwards and downwards in proportion as the contents of the gland escape.

The exact structure of these glands of the large intestine I have not been able to ascertain. In the foetus, Dr. Allen Thompson discovered them to be simple closed vesicles,* and he found them occasionally presenting the same appearance as late as the middle of the third year. At a later period of life he believed that they lost this condition. The glands in this simple vesicular state were kindly shown to me by Mr. Quekett, of the Royal College of Surgeons, in the caecal appendix of the colon of a foetus. But they certainly have a different structure in the adult; their walls are thick, not formed of a simple membrane. The matter contained in them is granular, and the granules, instead of being nucleated cells, like the globules found in the tubular follicles, are, according to my observation, solid homogeneous bodies, not much, if at all, larger than the nuclei of the mucous globules, and having a dark well-defined outline. The walls of the gland appear to me to be formed of similar bodies mixed with fibres.

The function of these glands of the large intestine is not known. From their being numerous in the caecum, it might be inferred that they form the acid secretion of that part of the intestines; yet their abounding equally in the rectum seems to be opposed to this view of their office. But whatever their function in the state of health, we shall see that their relation to disease is a very important one.

I proceed now to describe the *morbid changes found in the large intestines in fatal cases of dysentery*.

The diseased changes which I have observed arrange themselves in three different degrees of departure from the healthy structure, corresponding to three degrees of severity in the symptoms during life; and each of these degrees of morbid change has an acute and a chronic stage.

It is not often that the opportunity occurs for observing the state of the large intestines in the *least severe cases of dysentery* at an early stage of the disease. Occasionally, however, the life of the patient is cut short by some other malady; and then the morbid changes discovered in the colon or rectum are these:—the solitary glands in some part or other, generally in the rectum and sigmoid flexure of the colon, or in the caecum, are swollen, forming round prominences on the surface of the mucous membrane, varying in size from a millet-seed to

* Report of the British Association for 1846: Transaction of the sections, p. 156.

a full-sized shot. These prominences are sometimes of an uniform pale red colour; at other times they have a ring of bright redness around their base, or present this evidence of vascular turgescence only at their summit. Such were the morbid appearances found in the colon of a female patient in the Millbank prison, who was carried off by inflammation of the lungs eighteen days after the commencement of a mild attack of dysentery. And the same appearances were met with in a male prisoner, who died suddenly with symptoms of cerebral congestion, on the twentieth day, of a similar dysenteric attack.

In two other cases, in which the symptoms of dysentery were rather more severe, life was cut short in the one case on the eleventh day by the supervention of a spasmodic affection closely resembling tetanus, and in the other case on the twenty-second day by pneumonia. Here the swollen solitary glands were surrounded by deeper and more extensive redness, and there was besides an evident disorganization of the summits of many of the prominences; as is represented in this drawing. These disorganized portions, forming minute yellowish sloughs, could be detached with more or less ease from the surrounding tissue. And in a few instances it was clear that these small sloughs had become detached before death, and had left small ulcer-like cavities in the spots previously occupied by the enlarged glands.

The mucous membrane around the glands which exhibit these effects of inflammation, besides being red and tumid, is usually rough, or covered with a thin aphthous layer, which, by microscopic examination, I have found to be composed of particles of epithelium mixed with amorphous matter, probably fibrine. The mere roughness is, I believe, generally due to an altered condition of the epithelial investment previous to its being detached from the *membrana propria*. This roughened state sometimes exists over irregular spaces of a square inch or more in extent; each such patch having upon it two or three enlarged and altered glands.

Such, according to my observation, are the changes from the healthy state which the mucous membrane of the large intestine presents in the acute stage of the least severe cases of dysentery. And I would call your attention especially to the fact that the small ulcers which, as we shall presently see, are so commonly met with in other stages and degrees of the disease, are here shown to be produced, at all events in their commencement, by a process of mortification and sloughing, and not by ulceration. ¶ The solitary glands of the large intestines in the acute stage of mild dysentery cannot easily be shown to have cavities. Like the

agminated and solitary glands of the small intestines found enlarged and inflamed at an early period of continued fever, they seem to be solid masses. But if death does not occur at an early period of the disease, and the inflammatory process, owing to neglect of treatment or other causes, assumes the chronic form, then the cavity of each little gland is restored, and, becoming much larger than in the healthy condition, secretes an increased quantity of fluid of an abnormal character. This change is exemplified by the drawing I now show. It represents a portion of the large intestines of a female patient in the Millbank prison, who died of pleurisy with crural phlebitis, but had suffered for several weeks before her death from dysentery of so mild a character that she did not apply for medical aid until it had existed for more than a fortnight. Here the solitary glands were found enlarged, chiefly in the ascending and the transverse colon. The majority of them had no distinct cavities; they were quite devoid of redness, but were surrounded each by a ring of the ash grey colour so commonly seen in mucous membranes at those parts where inflammation has previously existed. There were some glands, however, situated, for the most part, along the prominences of the rugae and the longitudinal bands, which were as large as peas, and open at their summits. From these a muciform fluid, in some instances transparent, in others opaque and yellowish, could be squeezed. Several of the largest, when laid open, would have received a horse-bean into their cavity.

In this case there was no thickening of the coats of the intestine. If inflammation of the submucous tissue had ever existed to considerable extent, it had subsided quickly. But in other cases that pass into the chronic stage, the disease perhaps has originally been more severe; at all events inflammation has been kept up longer in a subacute form, and the result is a generally thickened state of the mucous and submucous coats. The enlarged glands are then not seen as prominences on the mucous surface, but in their places round or oval orifices exist, leading into round sacs or cavities in the submucous tissue. This is a variety of morbid change very often found after death from "chronic diarrhoea;" for this complaint, when not due to tubercular disease, is almost always the chronic stage of dysentery.

Before I pass to the description of the anatomical changes belonging to dysentery of the second degree of severity, let me remark, that in the lesions we have already considered, although the chief characters are derived from the altered state of the solitary glands, the effects of the inflammatory process are, neither in the acute nor in the

chronic stage, confined to these glands. In the acute form there is redness, tumefaction, and roughening of the mucous membrane over a considerable extent, with sometimes desquamation of the epithelium and effusion of fibrine; and in the chronic form there frequently is general thickening both of the mucous and of the submucous coat.

In cases of *dysentery of the second degree of severity*, the effects of the inflammation are, as in the slighter cases, generally most marked in the solitary glands, of which a large number are affected. The mucous membrane between them, however, is likewise the seat of active inflammation. The glands lose their vitality, and are converted into small sloughs, but the mucous membrane in which they are imbedded is inflamed and thickened, and is likewise altered on its surface. In the only case I have seen which could be referred to the first fortnight's progress of this second degree of dysenteric inflammation, the mucous membrane was rough, and was, at its surface, evidently converted into a thin lamina of dead tissue connecting together the deeper sloughs that involved the solitary glands. The dead lamina here spoken of certainly implicated the *membrana propria* in the intervals of the mouths of the tubular follicles, but from its thinness seemed not to involve any much deeper portion of the mucous membrane. These changes in the solitary glands and the intervening mucous membrane occupied principally the prominences of the transverse rugæ of the colon. The surface of the membrane itself did not present much redness, but the submucous tissue of the rugæ appeared very full of blood when compared with the exsanguine condition of most parts of the body of the patient who was the subject of phthisis. At a later stage, but while the inflammatory and destructive process still persists, the small sloughs enclosing the solitary glands are found to have been thrown off; the thin superficial layer of the surrounding mucous membrane which had lost its vitality is also gone, leaving erosions of the surface; and the mucous membrane with the submucous tissue are in most cases much thickened and turgid with blood and serum. The cavities which contained the sphacelated solitary glands appear as small round ulcers with sharply cut edges, resembling holes made with a punch, and give to the inner surface of the intestine somewhat of the aspect of a worm-eaten piece of wood. The ulcers communicate with each other here and there at their deepest part. In other places they have coalesced in their whole depth; and sometimes large ulcers have been formed apparently by the destruction of the septa of mucous membrane which had previously separated many small ulcers. When the

disease has affected the intestine only partially, the rugæ are the portions especially occupied by the small ulcers; and the large ulcers, when they exist, are almost always seated on the same prominent parts. The small round ulcers, for the most part, do not pass through the cellular coat; but the large ones commonly reach the muscular coat, and occasionally perforate both this and the serous coat. The drawing I now show, and the corresponding preparation, represent most of the appearances I have enumerated. The man from whose body this specimen of disease was taken suffered from an attack of dysentery, in April 1842; the disease was checked, but diarrhoea, of which he made little complaint at the time, lingered with him during the early summer months, and on the 15th of July he was seized with dysentery of a more severe character, which proved fatal to him in a month. The less acute disease, which had existed three months, may have caused some of the thickening of the coats of the intestine and some of the round ulcers, but the greater part of the changes represented in the drawing, were, I believe, due to the last acute attack. The upper part of the piece of intestine affords proof that the disease was still making progress at the time of death, and at the same time exemplifies one mode of extension of this form of ulceration. Small patches and larger strips of a rough substance are seen which at first sight might be taken for portions of false membrane or fibrinous exudation. The small patches, however, were found, on close inspection, to line and partially conceal small round ulcers; the larger strips were attached to the margins of large ulcers. They were really small sloughs. When they were removed and examined with the aid of a simple or a compound microscope, the openings of the tubular follicles of the mucous membrane were distinctly visible, and their cavities could also be traced in the mass of slough; though the epithelial lining was gone, and their membranous wall and the tissue on its exterior presented no longer their natural appearance. The diseased changes in this case extended from the ileocolic valve to the commencement of the sigmoid flexure of the colon.

Here, in another drawing and preparation, we have presented to us a second example of the form of ulceration I have been describing; the small round excavations coalescing into larger ulcers. But here the thickened state of the coats of the intestine is absent. The case which afforded this specimen, like the other to which I have referred, occurred in the Millbank Penitentiary. In these two instances the predominant character of the structural changes indicated that the solitary glands of the large intestine were the parts primarily and chiefly affected.

In another set of cases of the same degree of severity the morbid changes found after death have been of a totally different character. The solitary glands have not apparently suffered more nor perished sooner than the surrounding mucous membrane; consequently no small round ulcers have been formed. But the entire mucous membrane, in larger or smaller tracts, where the inflammation has reached a certain height, has fallen into the state of gangrene, and these gangrenous portions, which are generally seated on the prominent folds of the membrane, subsequently becoming detached, leave large ulcer-like excavations.

Some difference in the appearance of the intestines in which the disease has taken this course, are produced by the age and constitution of the patient, and the period of the disease. In young adults, previously healthy, the mucous membrane around the gangrenous parts is intensely red. In old and feeble persons it is often almost devoid of redness. At an early period of the disease the sloughs are of a dark green colour and firm consistence; at a more advanced stage they are of a yellowish white colour, and soft or spongy, and many of them have already become detached, leaving irregular excavations. Of this form of the disease, and its various aspects just indicated, I have seen several instances. It is well illustrated in this plate from Cruveilhier's great work, (plate 3, livraison 31.) Cruveilhier gives this as an example of enteritis, and seems to regard it as a different disease from dysentery; but the symptoms as well as the structural changes were altogether those of the latter disease. The general paleness of the intestine is accounted for by the patient having been in the puerperal state, and having suffered severely from flooding.

In this form of the dysenteric lesion, as well as in those previously described, where the solitary glands were especially affected, the disease, if will be observed, attacks by preference the transverse rugæ and other prominent parts of the mucous membrane, the chief exception to this rule being met with in the cæcum, which, though nearly devoid of rugæ, is yet a very frequent seat of dysenteric inflammation; and the ulcers, whatever their size and shape, originate by a process of sloughing, and not by simple ulceration.

In Cruveilhier's plate you will notice that several small round sloughs are represented, which seem to indicate that here, besides the diffuse inflammation and sloughing, there was also, at some points, especial affection of the solitary glands. But this combination of the two forms of the disease is frequently more unquestionable than in the instance here depicted.

Two forms of structural change, then,

attend cases of acute dysentery of the second degree of severity. In the chronic stage they still retain distinctive characters. In the one we have large ulcers of irregular shape, chiefly occupying the situations of the rugæ and longitudinal bands, while, in the other, the predominant feature is constituted by the small round ulcers. When the inflammatory action has continued long in a sub-acute form the submucous coat in both cases is found much thickened, and at an advanced period of the disease, much indurated in the situation of the ulcers. The contraction of these thickened parts in the manner of the cicatrices of burns sometimes is productive of strictures of the intestine. Of this, however, I have seen no instance at the Millbank Prison.

Allow me here, though it be a digression, to say a few words respecting the appearance presented by healing ulcers of the large intestines, an appearance which is characteristic and suggests the process by which the cicatrization is effected. A recent writer on dysentery has described the process, but, I think, not very correctly, in the following terms. "In an ulcer disposed to heal, lymph is regularly diffused over the surface, forming a gelatinous-looking coating, which becomes gradually darker in colour, rises to a level with the edges of the ulcer and the surrounding membrane, and then slowly contracts, puckering to a greater or less extent the adjacent mucous membrane."^{*} In this description too exclusive a share in the process seems to me to be given to the lymph effused on the floor of the ulcer, and too little notice is taken of the state of the edges of the sore. A fibrinous exudation undoubtedly takes place on the floor of the ulcer as well as in the interstices of the tissue forming its base; this effused fibrine becoming organised as it is slowly poured out layer by layer. But that the ulcerated surface is brought to a level with the surrounding mucous membrane wholly by this exudation of new matter, is opposed to what I have observed. In the cases in which I have had the opportunity of examining healing ulcers of the large intestine, a remarkable change in the margin of the ulcer seemed to accompany the effusion of fibrine on its floor. The edges of an ulcer which is still in an active state and spreading are perpendicular or even overhanging, but when the ulcer begins to heal its edges become rounded, the margin of the free surface of the mucous membrane being drawn down, as it were, to meet the floor of the ulcer. And now from this edge a delicate lamina, distinguished from the floor of the ulcer by a less dead white colour, shoots inwards till the whole surface is covered.

^{*} Dr. Parkes, op. cit. p. 17.

This delicate lamina is doubtless the epithelium. For the epithelium is reproduced on the cicatrices of ulcers of mucous membranes, as the epidermis is on those of the cutaneous texture, although the tubular follicles are never restored.

The appearances presented by healing ulcers of the colon from a case of chronic dysentery, are tolerably well shown in this drawing and in this preparation.

Dysentery, in its most severe degree, is frequently fatal in a very few days. The inflammation affecting a large extent of the mucous membrane reduces it with extreme rapidity to the state of sphacelus. In the parts most intensely inflamed, the whole mucous membrane is found swollen, and of a dark purple colour, or its texture is disorganised, and its colour black, green, or brown.

The effects of this destructive form of the disease were seen at a rather early stage in a feeble young man, who, when he had been two years in prison, was attacked with dysentery, and died after nine days' illness. His body being opened the morning after his death, the mucous membrane of the large intestines was found completely disorganized through a great part of their extent. In the upper half of the large intestine this condition existed only on the transverse rugæ and on the prominent ridges produced by the longitudinal muscular bands. In the lower half of the descending colon the gangrenous parts predominated over the portions of the membrane which yet retained their organization; and throughout the sigmoid flexure and the rectum, what had been the mucous membrane formed one uninterrupted surface of disorganized tissue, of dark-green colour, rough and warty to the touch, of firm consistence, and half a line to a line in thickness, subjacent to which was a layer of black coagulated blood; and the whole submucous coat was hardened, the blood in its vessels being coagulated. The solitary glands were not seen enlarged in any part of the intestines. I regret that I had no drawing made from this remarkable specimen of the diffuse gangrenous inflammation of the mucous membrane in dysentery; but the same morbid condition is represented in this plate from Cruveilhier's great work (Pl. 5, Livraison 40), and in several of the plates in Mr. Annesley's Treatise on the Diseases of India. It is shewn, too, in this drawing, which was taken from a part of the colon of a young man who died in prison on the tenth day of an illness which partook of the characters of dysentery as well as of fever. The morbid appearances found after death corresponded to the symptoms observed during life, for the ileum presented the inflammation and sloughing of the agminated and solitary

glands that belong to continued fever, while the colon presented appearances which answered exactly to Rokitsansky's description of the dysenteric process. We see represented in the drawing the different stages of the disease: in one part the swollen and purple-red state of the mucous membrane, and the tumid condition of the submucous tissue, forming prominent masses; then thin crusts of disorganized epithelium and lymph lying upon the inflamed surface; and, lastly, the dark sloughs, involving the whole thickness of the inner coat of the intestine.

When inflammation of this degree of intensity affects a large extent of the intestine, death, as I have already said, generally ensues very speedily. This is not, however, always the case; and, when life is prolonged for several weeks, we see further stages of the disease—or perhaps I should rather say, changes in the parts which the disease has destroyed, viz. the softening and the separation of the sloughs.

The man from whom the diseased intestine represented in this drawing was taken, was attacked with dysentery seven weeks before his death. We see the still congested state of the mucous membrane where it has not been disorganized, and the great thickening of the submucous coat; we observe, also, in the upper half of the intestine, ulcers of various sizes, evidently due to the sloughing of prominent parts of the rugæ; for in one or two the slough is only partially detached; and in the lower half, the state of uninterrupted slough. This last-mentioned state extended from the middle of the descending colon to the termination of the rectum. The slough resembled wet cotton wool, tinged yellow, and seemed to be chiefly formed by the cellular coat, to which the dead mucous membrane was hanging in shreds. Here and there a part of it had been thrown off, and the muscular coat was bare. In the rectum, the muscular coat also was disorganized, and the walls of the canal, at the same time that they were thickened, were so soft, that the fingers easily broke through them. Portions of the transverse colon and sigmoid flexure are preserved in these two preparations.

It seems scarcely possible that life should be long maintained with a large portion of the alimentary canal in such a condition as this; but where the gangrenous process has not affected the coats so deeply, the patients survive for some time the loss by sloughing of the mucous membrane, and of much of the submucous tissue through more than half the length of the large intestine.

I shall conclude this account of the structural changes observed in fatal cases of dysentery occurring at the Millbank Penitentiary, by directing attention to this drawing and these preparations, which shew the

co-existence of the small pin's-head ulcers with the diffuse sloughing of the mucous membrane.

Before comparing the morbid changes I have been describing with those observed in the dysentery of other parts of these islands, of the Continent of Europe, and of India, allow me to dwell for a few moments on some of the characters of the process by which these changes are effected. In its nature, dysentery is indubitably an inflammation. Respecting the tissue primarily affected, there likewise can be no doubt. It is that tissue, composed principally of capillaries, amorphous substance, and nuclei of cells or cytoblasts, which invests the exterior of the solitary glands, and holds together the small tubular follicles of the mucous membrane. The epithelium, the *membrana propria* of the mucous membrane and tubular follicles, and apparently the solitary glands likewise, having no vessels of their own, must, in the normal state, derive their supply of nutritive material from this vascular tissue, through the intervention of the liquid part of the blood which exudes through the coats of the capillaries. Now when inflammation is lighted up in the vascular tissue of which I speak, not only is the quantity of the extravasated liquid increased,—it is also altered in quality. The first effects of this condition, besides turgescence of the membrane, are the pouring out of a muciform secretion from the tubular follicles in increased quantity, and the separation of the epithelium of the mucous membrane upon and around the solitary glands: at the same time the walls of the capillaries and the *membrana propria* itself must be ruptured or dissolved at some points, so as to allow the escape of the blood disks which are mingled with the discharged mucus. As the inflammation becomes more intense, the blood in the capillaries around the solitary glands at length stagnates and coagulates. These glands, then, lose their vitality, and, together with the portion of surrounding tissue in which the circulation has ceased, are thrown off as small sloughs: thus are formed round ulcer-like excavations, which are large and deep in proportion to the extent to which the circulation had been arrested in the capillary net-work. If the inflammation do not subside, fresh portions of the mucous membrane, including follicles and a part of the subjacent vascular tissue in which the blood has ceased to circulate, are detached, and thus the small round ulcers continue to extend by a process of sloughing as long as the inflammation continues active. The separation of only the superficial layer of the mucous membrane, forming the mere erosions which are sometimes seen, must be owing to the movement of the blood having ceased only in the most superficial stratum of the capillary net-work.

Respecting the mode of formation of the larger ulcers—those which extend for the most part along the prominences of the rugæ—it seems unnecessary to say many words. The drawings now before you appear to demonstrate the fact that these ulcers, as well as the more extensive loss of the inner coat of the intestine, which occurs in the worst cases of the disease, are due to a process of mortification and sloughing.

The ulcers, however, when they are once formed, and when the inflammation is subdued in severity, may continue to extend slowly by a different process, namely, by a solution of the tissues; this, indeed, is not only possible, but most probable. We can explain the separation of the dead portions of tissue while the disease is active only by supposing that they are dissolved at their line of junction with the still living tissue; and this solution must be effected by the fluid poured out by the capillaries. Now it is probable that, when the inflammation is no longer active, the mucous membrane dies in small portions, and that these dead particles of tissue are wholly or in great part dissolved by the fluid exudation, and not cast off in solid sloughs.* The slow increase of ulcers in depth is doubtless due to the same process. There seem also to be cases where shallow solutions of continuity are originally produced in the mucous membrane by a similar process—I allude to cases in which the mucous membrane has been lost without there being any marks of active inflammation in the subjacent and surrounding membrane—cases where the membrane is by some writers said to be destroyed by softening. This, however, must occur very rarely in dysentery,—at all events, in the dysentery of adults. In this disease, when acute, the ulcers are certainly produced by the process before described, *smaller or larger portions of the mucous membrane perishing, and being thrown off as solid sloughs*. This process is, however, not peculiar to dysentery: it is seen conspicuously in continued fever when the affection of the glands of the small intestines exists in a very active form; and probably also in all mucous membranes in which loss of substance is rapidly produced as a consequence of acute inflammation.

I should not have said so much on this topic, did not the language of modern morbid anatomists seem to indicate that they regard true ulceration as the most usual cause of the solutions of continuity so often seen in the mucous membrane of the intestinal canal. The earlier observers were in the habit of regarding all dark and much congested portions of mucous membrane as

* The process of ulceration is described by Rokitsky as a dissolving or eroding of the tissues by a peculiar exudation.—Op. cit. t. i. p. 231.

mortified. Modern anatomists avoid this error; but in the instance to which I have to-day called your attention, they appear to have overlooked the occurrence of mortification or sphacelus where it really occurs.

Original Communications.

OBSERVATIONS ON PHAGEDENIC SPHACELUS, OR HOSPITAL GANGRENE,

WHICH ATTACKED THE CELLULAR, MUSCULAR, AND FIBRINOUS TISSUES OF THE WOUNDS OF THE PRIVATES AND NON-COMMISSIONED OFFICERS OF HER MAJESTY'S 29TH REGIMENT OF FOOT, AFTER THE ACTIONS OF FEROEZESHAB, 21st AND 22d DECEMBER, 1845, AND SOBBAON, 10th FEBRUARY, 1846.

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ON the morning of the 10th of February, 1846, there were 47 privates and non-commissioned officers under treatment for this gangrenous condition of the cellular, muscular, and fibrinous tissues in the centre ward, and verandahs of the hospital, and in tents pitched at a distance from the hospital; and 17 men whose wounds were so far recovered from the effects of the disease, that they looked clean and healthy, and were granulating from every part of the surface.

The incessant roar of artillery, immediately after day-break, from our own and the enemy's howitzers, mortars, and 24-pounders, accompanied at intervals with a sensible "tremblement de terre," announced to us, who were detained at Ferozepore to receive the wounded, that that hard-contested and gloriously won battle "Sobraon" had commenced.

Infected as this hospital was with the disease under consideration, and aware that the gallant fellows of the 29th would maintain by their indomitable courage the high repute gained at Ferozeshah, and be foremost in the ranks, where death and wounds and glory awaited the soldier, I con-

templated with dread their wounds being attacked with this specific inflammation terminating in mortification.

The disease, which had been on the decline in the hospital since the 1st of February, 1846, was suddenly revived in full vigour, and few of the recent wounds received in the action of Sobraon escaped its influence. The form of the disease, in the majority of cases attacked, was just as virulent as that which had been noticed 12 or 15 days previously. The edges of the wound looked inflamed, glossy, and irritable; the adhesion by the first intention gave way in those extensive longitudinal cuts, inflicted by the Sikh tulwars, some on the head, others on the arms and legs, and others on the neck and back. The secretion was checked at the onset of the disease; when renewed it was changed in colour and consistence; the lips of the wound soon assumed a deep red, purplish, and gangrenous appearance.

The constitutional fever in these recent cases was of a high inflammatory type; the face flushed; skin burning hot; racking pains in the head; loss of appetite; thirst; foul, loaded, tongue; full, bounding, incompressible pulse; restlessness in bed, and want of sleep; in the wounded parts, burning, throbbing, pains; and in the limb, a feeling of fulness, weight, and tension.

The acute inflammatory type of the fever was strongly marked in the privates and non-commissioned officers, whose wounds, received in the action of Sobraon, were attacked with gangrene on the second or third day after admission into hospital. Not so in the greater number of cases wounded in the action of Ferozeshuhur, and whose wounds did not exhibit an unhealthy action for three, four, or five weeks after their admission into hospital. The accompanying fever resulting in the local condition of the wound, partook of the low, typhoid, adynamic form.

In the former, the local inflammation and subsequent sphacelation of the tissues was acute, extensive, and rapid, so that no defined limit could be calculated upon, as the probable extent of the destruction of the adjacent structures during the next 24 hours. In the latter, however, a limit could be as-

signed, and the utmost extent of the destruction of parts during the ensuing 24 hours be previously ascertained.

In those cases where the type of the fever was low, typhoid, and adynamic, the local inflammation, although slow in its development on the surface, nevertheless was deeply and widely spread among the internal cellular, muscular, and ligamentous structures of the limb. The progress of the mortification which followed was also slow, and not so uniform in the course pursued as in the sthenic form: the line which indicated the separation between the living and dead tissues was irregular, interrupted by long stripes of livid, greenish yellow, or dark bottle-green colour; beyond these stripes, the deep inflammatory blush seldom extended more than a quarter or half an inch.

Effusion into the bursæ and synovial membrane of the joints occurred more frequently in the acute sthenic form of the disease than in the low, typhoid, adynamic form. In a private, the muscles of whose right arm had been lacerated by a round shot above the elbow-joint, and in a non-commissioned officer, whose left thumb was carried away, the muscles of the arm and forearm partially lacerated, and the left side, between the 10th rib and crest of the ilium, severely contused by another round shot, the wrist and elbow-joints exhibited the appearance of copious effusion into the synovial membranes; soon after the wounds took on an unhealthy gangrenous action.

In the lower extremities also, the knee and ankle-joints presented all the features of acute inflammation of the synovial membrane, and rapid effusion into the bursæ and synovial sacs, where the type of the fever was acute inflammatory; where the local condition of the wound passed rapidly from one stage into another; where the sphacelation of the several structures spread with regularity in the circular form from the centre of the wound, and deprived of vitality all the tissues which came under its influence; and where the acute inflammatory action extended in every direction beyond the apparent line of the living and dead structures.

The complication of an inflammatory condition of the organs of secre-

tion and excretion occurred in five or six cases: in some, the fatal termination of the case was not only accelerated by but chiefly attributable to it. When the gangrenous condition of the wound, complicated with an inflammatory state of the membranes of the brain, the parenchymatous tissues of the lungs or liver, or with an inflamed and ulcerated state of the mucous membrane of the alimentary canal, did not prove fatal, the ultimate recovery of the patient was very protracted.

During the progress of the inflamed and gangrenous condition of the wound, an inflammatory attack of the mucous membrane of the large intestines was the most frequent complication, and the form of disease most to be dreaded. Where the thoracic viscera have suffered from inflammatory action, pneumonia and pleuritis have been usually combined; a solid condition of the lung, with rapid and copious effusion into the pleural sac. In all the solid viscera there appeared to be a marked tendency on the part of the inflammation to run into the suppurative stage.

Treatment.—The principles of treatment adopted in the disease under consideration were divided into constitutional and local, and in their application, particularly of the former, or constitutional, it was necessary in every case to bear in mind the immediate form of disease under which the patient laboured; whether the type of the fever were sthenic, acute, inflammatory, or asthenic, low, typhoid; and, more especially, whether the fever present were entirely dependent on the local condition of the wound, or had its seat in some acute inflammatory lesion of one or more of the internal viscera, with which the gangrene of the wound or amputated limb may have been complicated.

Amongst the wounded received into hospital, on the afternoon of the 11th February, after the action of Sobraon, the acute inflammatory sthenic form of fever prevailed as soon as their wounds were attacked with hospital gangrene. The pulse was full and bounding; the skin burning hot; the bowels constipated. There was in general a high degree of feverish restlessness, and anxiety, about the patient; his face was flushed; his eyes blood-shot, and

apparently starting from their sockets. He complained of a splitting headache; want of sleep; an unquenchable thirst, and loss of appetite. In the wound, wherever situated, at the entrance, exit, and throughout the transit of the ball, he suffered excruciating torture, as if the entire surface had been seared with a red-hot iron. There were tension and fulness of the limb in the vicinity of the wound; irritability of the surface; redness and puffiness of the edges, with surrounding induration from effused lymph, and other local appearances indicative of the first stage of the gangrene having established itself in the wound.

So early as the second day after admission into hospital did this specific inflammation manifest itself in the wounds of three privates. On the 14th, 15th, and 16th, the disease spread with fearful rapidity; the number of men suffering from its effects had increased fourfold.

Under these circumstances, the constitutional treatment consisted in general depletion and free purgation. A similar line of treatment had been pursued previous to the action of Sobraon, in those cases whose wounds had been received at Ferozeshuhur, and with decided benefit. Venæsection was resorted to; 10, 12, or 16 ounces of blood were abstracted in proportion as the strength and constitution of the patient, and the state of the pulse, indicated; and guided by these it was repeated, or not, in the course of the ensuing 36 hours: eight or ten grains of calomel, and six grains of James' powder, when it was obtainable, or five grains of antimonial powder, were given in an hour after the bleeding. In 12 hours afterwards the common purgative draught composed of Epsom salts and senna, or 10 drachms of castor oil, with an ounce of peppermint water, were in general sufficiently active to clear out the bowels. On the following night the calomel and antimonial powder, or James' powder, in equal quantities, six grains of each, were repeated; and a purgative draught, or a strong purgative enema, administered on the following morning.

When the acuteness of the inflammatory fever was not diminished by the first blood-letting, venæsection was resorted to a second time, and the

quantity of blood taken away greater or less than on the preceding day according to the strength of the pulse and the condition of the patient. The blood thus abstracted has almost invariably exhibited a deep buffy coat, cupped surface, small compact coagulum, floating in a large quantity of serum. The diet was restricted to tea, barley water, and toast.

As soon as the inflammatory action going on in the system was reduced by the general depletion and free purgation, the antiphlogistic line of treatment was still persevered in, by prescribing a mixture composed of Tartar Emetic, gr. ij.; Tincture of Opium, 3j.; Water, 3viij., of which an ounce was given every third hour. The tartar emetic, when borne by the stomach, was increased on the second or third day to three and a half grains, and on the fourth day, if still retained without producing vomiting, the quantity was increased by another grain. No corresponding increase was made in the quantity of the tincture of opium.

Under the nauseating influence of the tartar emetic, and the soothing anodyne effects of the opium, with the previous loss of blood from venæsection and copious discharges from the bowels, by means of purgatives and enemata, the restlessness, the anxiety, the feverish excitement of the patient, have subsided; the full, bounding, throbbing pulse fell, became soft and compressible; the small, hard, wiry, jerking pulse expanded; the blood circulated through the arteries, and the system in general, more freely and more equably. The flush on the cheeks, the suffusion of the eyes, the feeling of the constriction across the eyebrows and forehead, gradually decreased. The pungent heat of skin was replaced by a softness and moisture of the surface; the perspiratory secretion was relaxed, the insatiable thirst diminished, and in several cases the patients have expressed themselves relieved beyond expectation.

Essentially different from this line of treatment was that pursued in those cases where a low, typhoid, adynamic type of fever attended the gangrenous condition of the wound. The subjects of this form of disease were the privates and non-commissioned officers wounded on the evening of the 21st and the morning of the 22d December,

1845, in the action of Ferozeshuhur. Exhausted by the loss of blood, they lay in a state of utter helplessness on the field of battle for upwards of eight and forty hours, without food, without covering, without strength sufficient to call to a passing comrade for a drink of water. In more than one instance, if I remember rightly, the men remained on the ground during three nights and two days, and were brought into Ferozepore on the evening of the 24th, or afternoon of the 25th and 26th December.

In cases of this description venæsection could not be employed; active purgatives required to be prescribed with caution. Opiates in powder or in tincture, the preparations of the acetate and muriate of morphia, so long as these medicines lasted, were administered with a free hand, and the debilitated strength of the patient was supported by a nutritious diet, and the use of beer, porter, and wine. Calomel and antimonial powder in equal proportions of five grains each, followed by a dose of castor oil in 10 or 14 hours afterwards, were found to be sufficiently active in regulating the bowels; and, from the tonic and soothing influence exercised on the system, a combination of sulphate of quinine, 4 grains, and muriate of morphia, a quarter of a grain, was found to be a useful medicine when given every fourth hour.

In the constitutional treatment of these cases of hospital gangrene, the type of the attendant fever was the chief index in regulating the adoption of antiphlogistic or non-antiphlogistic measures. On it depended the employment of venæsection and active purgation; or the opposite—the tonic stimulating plan of treatment.

Independent of the type of the fever, and the constitutional treatment of the accompanying symptoms, the local treatment of the disease varied but little in the greater number of cases. On the application of the pure nitric acid our chief reliance was placed; by means of it, a narrow, but deeply burned circle, was drawn over the inflamed but otherwise sound skin, about the sixth part of an inch beyond the blue, livid, or purplish margin, which denoted the furthest extent of the sphacelus. The mortified tissues were thus completely circumscribed. When

finished, a piece of linen steeped in the chloride of lime was placed over the gangrenous surface, and the wound covered with a charcoal-linseed meal poultice.

When the inflammation of the skin and cellular tissue was extensive, and in the vicinity of the joints either of the upper or lower extremity, the parts beyond the burned circle were freely leeches, particularly when no doubt remained as to the existence of acute inflammation of the synovial membrane, with effusion into the synovial sac.

The "cordon sanitaire," formed by the destruction of the tissues, still possessing vitality, by means of the nitric acid requires to be carefully and effectually made: it is worse than useless applying it to the surface in a light and ineffectual manner. The further progress of the sphacelus cannot be thus arrested; the amount of pain produced by the application of the acid is the same to the patient, without securing to him the chance of the disease being checked. Unless the cutis, rete mucosum, and cuticle, are effectually brought under the influence of the acid, and the vitality of these several tissues thoroughly destroyed, instead of limiting, it could not be questioned that the extension of the gangrene was promoted.

Other local applications have been tried—leeches, extensive scarifications, deep incisions, fomentations, and poultices of every prescribed form; but in not one instance has the spread of the mortification been arrested, nor have the results proved satisfactory. From the comparative success which has attended the use of the strong nitric acid in this disease, I have no hesitation in recommending that its immediate application ought not to be delayed, even on the first indication of the wound having been attacked with this specific inflammation.

The time lost in resorting to less severe local applications is irreparable. The opportunity afforded for the destruction of the cellular, muscular, and fibrinous tissues, cannot be retrieved; and the subsequent injury sustained by the patient's constitution has invariably proved serious in its consequences.

With few exceptions, it may be stated, that, in the athenic form of the

disease, when the local has been aided by the constitutional treatment, the mortification has not passed beyond the line drawn by the nitric acid: in those cases in particular where the acid has been carefully and effectually applied. In four cases, however, the mortification has reappeared on the external margin of the burned circle, but invariably at that particular part of the circle where there was every reason to suspect the nitric acid had not penetrated sufficiently deep to destroy the cuticle. The yellow circular band, formed by the nitric acid, has remained untouched by the disease, separating the recently mortified parts from those which had been originally attacked. Under these circumstances, the re-application of the nitric acid beyond the terminating line of the recently mortified parts has been the remedial measure resorted to. After the second application of the nitric acid, I cannot find amongst the cases entered in my note-book a single instance in which the gangrene repassed the burned line.

Caustic potass has been substituted for nitric acid, but not with more beneficial results than those produced by the application of the nitric acid. In their action, namely the destruction of the vitality of the cutis, rete mucosum, and cuticle, with the inter-muscular cellular tissue, they differ but slightly from each other, so that it is not necessary to dwell on this preparation.

In the use of poultices, it was immaterial what description we employed after the nitric acid or caustic potass had been applied. In the dépôt hospital of H. M.'s 29th foot, it appeared to be of little consequence whether we used the simple linseed-meal or the linseed-meal poultice, mixed with charcoal; whether it was the carrot, or the fermenting poultice. In their application to the wounded parts, one circumstance was essentially necessary to be borne in mind, that whether cold or warm the poultice was of sufficient size to extend beyond the limit of the inflammation, so as to remain in contact with the unaffected skin, and that it was regularly changed every sixth hour.

A poultice, if allowed to remain on for twelve or fifteen hours, does infinitely more harm than good; it becomes dry and hard, and tends to in-

crease rather than diminish the inflammation of the parts to which it has been applied. On the contrary, when changed frequently, the redness and inflammatory blush, remote from the centre of the wound, disappearing, the skin becomes pale and corrugated, and with it the patient finds the parts relieved from pain.

On the fifth or sixth day after the application of the nitric acid, the gangrenous mass has become detached from the subjacent healthy tissues in the centre of the wound: in a few days afterwards other portions of the slough can be removed by a scissors; and the integuments, destroyed by the acid, separate, and expose to view an extensive, but clean, healthy, suppurating wound, granulating from the bottom and every part of the exposed surface.

In the separation of the sloughs, whole layers of muscles and tendons of the forearm and arm; of the leg, thigh, and abdomen; of the back and shoulder, have been denuded of integuments and cellular tissue: and the destruction among the fibres of the muscles, and the fibres of the tendons, caused by this specific inflammation, terminating in mortification, has been clearly exposed to view.

The annexed case will serve to illustrate to what an extent the destruction of the cellular, muscular, and fibrinous tissues will progress when attacked by gangrene. It illustrates the necessity of the early application of the acid to circumscribe the ravages of the disease. It illustrates, also, the success which attended the re-application of the nitric acid after the disease had passed the first circle, or "cordon sanitaire," and in consequence was re-circumscribed by the secondary line, or segment of a circle.

A private, at Sobraon, in rushing forward to the intrenchments to protect the body of that bravest of men, Lieut.-Col. Taylor, C.B. from being mutilated, was struck by a musket-ball in the right shoulder. He staggered, the arm fell powerless by his side, the musket dropped from his grasp. When conveyed to the rear, the wound was dressed, and on the 11th of February, he, with 46 others, arrived at the dépôt hospital, Ferozepore.

The wound was examined. It was small and circular, situated on the inner side of the deltoid muscle, high

up, close to but on the inner side of the acromion process of the clavicle. The exit of the ball was also small, but jagged, situated on the dorsum of the scapula, midway between the angle and the spine, or ridge of this bone. Fracture of the bone was expected, but in examining the humerus, there could not be detected the slightest crepitus nor grating in any part of the arm; the head of the bone moved freely in the socket backwards and forwards, and could be elevated or depressed without inconveniencing the patient. There was considerable stiffness, and some pain in the shoulder, and of himself he could not raise nor press the arm firmly to his side. On the field of battle he fainted from the profuse hæmorrhage.

In having failed to detect crepitus, and in the absence of lengthening or shortening of the arm, with perfect moveability of the head of the humerus in the glenoid cavity of the scapula and capsule of the joint, I, with others, came to the conclusion that the ball aimed at this man from above must have pierced the skin and muscles in a slanting direction, and in its transit swept in a semi-circular direction round the head of the humerus, and then passed almost in a straight line until it cut its way through the muscles and cellular tissue, and skin, on the dorsum of the scapula. The external wounds were dressed, and splints applied.

The wounds, corresponding to the entrance and exit of the ball, in four days afterwards presented an inflammatory blush on their edges. They looked irritable and glossy, and the secretion, diminished in quantity, was viscid, glutinous, and glary, constantly oozing from the internal surface of the ball's transit. The constitutional irritation was marked; the feverish symptoms accompanying the change in the local condition of the wound were acute inflammatory.

The inflammatory condition of the wounds was not arrested by the application of leeches, and the employment of scarifications, and afterwards poultices, combined with constitutional treatment. The inflammation diffused itself extensively, and passed rapidly from stage to stage, involving in a state of mortification the cellular, muscular, and fibrinous tissues in the

vicinity of the shoulder-joint, and on the back of the scapula: the rapidity of its progress it was not possible to have calculated on beforehand.

When the gangrene was thus spreading from hour to hour, and no limit to its destruction of parts, superficial or deep-seated, could be fixed, a circle was drawn by the strong nitric acid round the mortified mass, about the sixth part of an inch from the line which might be considered the point of separation between the living and dead structures. In front and behind the circles were deeply burned; the surface of the gangrenous mass was covered with cloths steeped in chloride of lime, and then the charcoal and linseed-meal poultice applied.

At the exit wound on the scapula, the gangrene passed beyond the "cordon sanitaire," and reappeared on the external margin of the circle, at a point where it may reasonably be inferred the acid did not penetrate sufficiently deep; elsewhere the progress of the inflammation and the mortification appeared to have been arrested. The nitric acid was re-applied the fourth part of an inch beyond the limit of the gangrene, so as completely to circumscribe it: beyond this secondary line, which formed the segment of a circle, the mortification did not reappear.

In the subsequent detachment of the gangrenous mass from its adhesion, and the sloughing of the "cordon sanitaire" burned by the nitric acid, a considerable extent of surface was exposed. In the daily separation of the masses of putrid cellular tissue and muscular fibre, several spiculæ of bone, discharged from the interior, or entrance wound, attracted attention.

As soon as the sloughs had been cleared away, the muscles in front and behind were exposed to view, loose, partially destroyed, hanging apart from each other, and leaving a portion of the bone in front denuded. The transit of the ball could now be distinctly traced; it passed directly through the humerus, immediately below the anatomical neck of the bone, without shattering it to pieces: on either side was the solid bone, forming walls to the passage thus made in the ball's transit. The outer wall was thin, but perfect. From the internal surface of the wound I extracted with a small pocket forceps several fragments of bone, which dis-

played more clearly the course taken by the ball. Hemorrhage from the veins and small anastomosing arteries, previous to our quitting Ferozepore, caused excessive debility, and considerably protracted his recovery, but change of air has already produced much benefit, and I entertain strong hopes of his ultimate recovery after his arrival at Kussowlie.

In the subsequent dressing of the wounds and suppurating sores, powdered bark has been sprinkled over the surface, and covered with simple dressing, or an opiate cerate: but I do not believe that the wounds dressed in this manner granulated more quickly, or more healthily, nor did they cicatrize sooner, than those wounds in which all the crevices and inter-muscular sinuses were filled up with charpie, and then covered with simple dressing.

One advantage is derivable from the use of powdered bark in the dressing of these wounds; if fresh, and of good quality, when sprinkled over so extensive a suppurating surface, the tonic principle is generally carried into the system by the absorbents.

In the greater number of cases, as soon as the sloughs had separated, and a thick yellowish healthy purulent matter was secreted from the surface, the feverish symptoms in general passed away; the patient's skin became cool, the tongue moist, the pulse regular, and the appetite improved: excessive debility was the most prominent feature in five or six cases.

The antiphlogistic measures were now discontinued; the tartar emetic and opium mixture was replaced by quinine mixture, or by a combination of quinine and opium in powder, every fourth hour, and a generous nutritious diet allowed, with half a bottle of beer or porter.

In those patients who suffered from the adynamic typhoid form of the disease, these remedial measures had to be adopted, almost from the commencement, long previous to the separation of the gangrenous mass, and the subsequent suppuration of the wound.

[To be continued.]

EFFECTS OF SULPHURIC ETHER,

IN A CASE OF DISLOCATION OF THE FEMUR
ON THE SACRO-ISCHIATIC NOTCH OF
FIVE WEEKS' STANDING.

By H. H. RADCLIFFE.

Surgeon.

J. B. æt. 40, a strong muscular Irishman, applied at the North Dispensary, on the 13th of Feb., in consequence of an injury he had received of the right inferior extremity, by a fall of earth under which he was working on the 15th of January.

Upon examination the limb was found to be about one inch shorter, slightly flexed, the knee and foot turned inwards, the first toe resting on the sound one. In the erect position the toes of the injured limb touched the ground, with the heel raised; flexion and rotation could only be effected to a very limited extent. The trochanter major was situated upwards and backwards as regards the acetabulum. Reduction was attempted under the influence of the vapour of sulphuric ether for three or four minutes, when he became insensible and remained so for six minutes; the influence of the ether being maintained by fresh inhalations for one hour, when, unfortunately, the apparatus broke, which rendered any further attempt useless. The trochanter major was drawn down to a level with the anterior inferior spinous process of the ilium, but resumed its old position upon the breaking of the pulley.

A second attempt at reduction was determined upon on the 15th; and large doses of tart. emetic were given in conjunction with the use of the warm bath. The man resolutely refused to submit to the inhalation of the ether, which afforded a good opportunity of judging correctly of the effects to be attributed to its agency.

The trochanter major was brought to the same position that had been gained in the first attempt, requiring, however, a much greater extending force. After the lapse of two hours, no further advantage having been gained, it was considered advisable to desist, on account of the violent struggles of the patient, and the excruciating pain he appeared to suffer. The extension being relin-

quished the bone resumed its abnormal position.

On the 18th the man was induced to permit another effort to be made, himself requesting that the ether might be used. He was bled to incipient syncope, and nauseating doses of antimony being given, the extension was commenced during the inhalation of the ether: under the influence of the latter he became rapidly affected, so that in two minutes he was insensible, and remained in this state for several minutes. Upon evidence of pain being manifested the inhalation was renewed, followed by the same result; on consciousness returning the second time, the man eagerly called for the bladder, the application of which was attended by a similar result; and this occurred five or six times before the reduction was accomplished, which took place one hour and a half from the commencement of the extension.

During part of the time the man was laughing, although during the intervals in which the patient was passing from under the influence of the ether, until its effects could be renewed by a fresh inhalation, it cannot be denied that he suffered extreme pain. The ether was perfectly successful in lessening to a great degree the pain, and preventing the violent struggles which were obstacles of no trivial amount in the second attempt.

The greatest advantage derived from the use of the ether arose from the relaxation of the muscles which would have otherwise been called into action in obedience to the will, the natural consequence in cases where the patient suffers or even dreads the infliction of pain.

The above case is reported by the permission of my colleagues, Mr. Ferguson, in whose practice it occurred, and Mr. Chalmers.

67, Mount Pleasant, Liverpool,
February, 1847.

VISITS TO PATIENTS.

FREQUENT visits are in general requisite, since they enable one to arrive at a more perfect knowledge of the disease, and also preserve the confidence of the patient. Too frequent visits—unnecessary visits—are to be avoided, for they give useless anxiety to the patient, and expose the physician to be suspected of interested motives.—*Hufeland.*

THE INJURIOUS EFFECTS OF MESMERISM.

By EDMUND SHARKEY, M.D.

St. Heller's, Jersey.

Is there anything in Mesmerism?

This is a question which has been often asked, and variously answered; but generally the inquiry has been limited to the consideration of what good it does. Two cases, however, which have fallen under my observation have suggested to me the propriety of changing the ground of inquiry, and asking, may it not be productive of harm? I bring these cases forward in the hope that the note-books of other practitioners may either confirm or neutralize them.

Jersey, April 12, 1844.—Andrew Kingcomb, æt. 13, an amiable and interesting boy, very intelligent, of light complexion, auburn air, and the full eye and large pupil so often indicative of great nervous sensibility, is subject to epileptic fits. He is of a healthy family, and has been generally so, with the exception of an attack of convulsions at the age of three years. The account given by his parents is this:—Being, some time ago, at a school in a town in England through which a peripatetic mesmerist passed, the philosopher came to the school and begged of the master to let him have two or three of his boys to experiment on at a lecture which he was about to give. This boy was unfortunately one of those selected. He was accordingly put into the mesmeric trance, and it was long before he could be awakened. Shortly after this he had his first epileptic attack, and has ever since continued subject to a recurrence. The fits are of an imperfect kind, more or less nearly allied to syncope. They are preceded by tremors of the limbs, twitches of the muscles round his mouth, difficulty of uttering certain words, and not accompanied by frothing at the mouth or general convulsions. He generally has sufficient warning of their approach to allow him to run for help to any one who happens to be near. He continues subject to them at this present time (Feb. 1847).

The other case has occurred more

recently. A young gentleman, æt. 19, delicate, and of great refinement and sensibility, much attached to intellectual pursuits, went to a lecture on Mesmerism, in the course of which the Professor gave a general invitation to any of the audience who might wish to experience in their own persons the effect of his manipulations. My patient accepted it, and had some *passes* performed on his arm. On the day following, he was attacked by a fit of epileptic character, preceded by a sick sensation at the epigastrium, "which rose to his chest," as he expressed it. He stiffened, and became unconscious, and fell; his face was slightly distorted, and very pale. He described the sensation produced by the "passes" as being "like a cool air passing along his arm." He had never had any attack of the kind before, but had convulsions from teething when an infant. He belongs to a very nervous family. These two cases are, I think, calculated to serve as a warning (to nervous, sensitive people, at least) not to be too forward to try these experiments *in propria persona*.

St. Helier's, Jersey, Feb. 1847.

CASE OF
LITHOTOMY UNDER THE USE OF
ETHER VAPOUR.

BY W. SAXON, M.D.

Surgeon to the Coventry and Warwickshire
Hospital.

H. J., æt. 11, was admitted into the Coventry and Warwickshire Hospital, Dec. 22d, 1846, under the following circumstances. The boy has been very delicate from his birth, but during the last two years his sufferings have been much aggravated; his pains are now so acute as to preclude all sleep, and are chiefly referred to the hypogastric region and glans penis; he has frequent desire to pass his urine, which is highly alkaline and loaded with muco-purulent matter; there is great emaciation, loss of appetite, nausea, occasional vomiting, tumid abdomen, diarrhœa, feeble and quick pulse with extreme debility. It is unnecessary to enter into a history of the daily treatment of the above symptoms. I shall simply state, that as the first object

appeared to be the allaying irritation and improving the secretions previous to verifying the diagnosis that stone existed in the bladder, Pulv. Ipec. co. Hydr. c. cretâ, were exhibited at night, succeeded by Ol. Ricini in the morning, and a mixture containing Acid. Hydrochlor. et Tr. Opii at regular intervals, which, combined with quiet in bed and a light nutritious diet, had the effect in the course of five weeks of gradually improving the health, when the patient was sounded and a stone readily detected, which it was determined should be removed at the earliest opportunity: accordingly, with the kind assistance of my colleagues, Dr. Gwynne, Messrs. Bury and Troughton, and in the presence of other friends, I performed the operation of lithotomy on the 14th inst., the boy previously inhaling the vapour of sulphuric ether, and being kept under its influence until a stone weighing five drachms and thirty-five grains, spherical, and measuring nearly one inch and a quarter in diameter, was with difficulty extracted without the knowledge of the patient. His first observation when the effect of the inhalation had ceased, and before he was removed from the operating table, was, "Oh! I've dropped my penny," (having had one in his hand before using the ether): subsequently, when placed in bed, and asked if he had felt pain, he answered "No;" inquired if a stone had been taken from him, and expressed a wish to see it.

I shall not make any comment upon the above hasty and rough sketch, or offer it as any thing new: should you, however, consider it suitable for publication in your valuable periodical, as an additional confirmation of the efficacy of the ethereal inhalation in preventing human suffering during a protracted and severe operation, and that without any unpleasant effect resulting, in a young and unhealthy subject, it is at your service.

Feb. 23d, (9th day after the operation).—The patient has had a slight return of diarrhœa since the operation; but on the whole he is progressing favourably.

Coventry, Feb. 1847.

CASE OF
**DRY GANGRENE OF THE RIGHT
 THUMB, FINGERS, AND HAND,
 AND HUMID GANGRENE OF THE ADJOINING
 PART OF THE FORE-ARM.**

By W. K. BEAUMONT,

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Communicated by EDWARD STANLEY, Esq.

WATERSON, about 48 years of age, presented himself at the Toronto Hospital in the beginning of January, 1844, at which time the integument covering the two phalanges of the thumb was mortified, dry, shrunk, nearly black, and without any odour. The adjoining skin was slightly inflamed, being of a pale dusky-red colour. For three or four weeks the gangrene spread very slowly over the radial side of the hand and fore-finger, after which it spread to the middle finger, and then to the ring and little fingers, and subsequently the whole of the hand, both in the dorsal and palmar aspects, became affected with dry gangrene; and lastly, the soft parts covering the carpus, and about two inches of the distal end of the radius and ulna, perished by humid gangrene.

Until the gangrene reached nearly to the carpus, there was little or no vesication, the integuments of the fingers and hands being black, in parts with a tint of brown; it was dry, shrunk, hard, and inodorous, like the hand of a mummy. About the wrist and adjoining part of the fore-arm, the skin became vesicated as the mortification spread; it was of a greenish-dark colour, flaccid, not shrunk, and having the peculiar offensive odour of humid gangrene.

In the first part of its course the gangrene spread very slowly, by paroxysms, with intermissions of two or three, or more, days between the times of its spreading, which were always preceded and accompanied by very severe pain, the patient being unable to sleep, notwithstanding the large doses of opium which were given (sometimes three grains of the sulphate of morphia in the four and twenty hours). Before each extension of the gangrene, the adjoining skin became of a deeper dusky-red colour, in places mottled with a livid leaden hue.

Besides the gangrene, the patient

had an osseous tumor growing behind the middle of the right clavicle, not from it, as the tumor did not move with the motions of the clavicle. It was firmly fixed, and may have grown from the vertebral column or from the first rib. A very large artery, probably the subclavian, lay flattened, but pulsating strongly on the surface of the tumor, close beneath the skin. The axillary artery pulsated strongly, but the brachial was obliterated nearly in its whole length; there was, from the first time I saw him, no pulsation on the inner side of the tendon of the biceps, or in the radial artery, but the brachial could be felt pulsating for a short distance from the distal margin of the latissimus dorsi.

The patient came under my care in the Toronto Hospital on Feb. 27, 1844, about a week before which time a groove had formed between the dead and living parts, and ulceration had at this time exposed about an inch in length of the extensor tendons, which had perished. There was a copious discharge of pus, and the patient was much reduced in strength and bulk, and was suffering great pain; but his tongue was clean, his bowels regular, his appetite not bad, and his pulse between 70 and 80, full, soft, and regular. He had been taking eight ounces of wine daily, large doses of opium, and aperient medicine when required. On Thursday, Feb. 29, I amputated the fore-arm about three inches below the elbow-joint. The radial and ulnar arteries were extremely small, but healthy; and the muscles, where divided, were florid and healthy. Two or three strips only of adhesive plaster were used to hold together the edges of the wound, which, ten days after the operation, had united by adhesion in the greater part of its extent.

On Sunday, three days after the operation, I found a gangrenous spot, about the size of a sixpence, on the edge of the wound, on the very part where the integument had united by adhesion. The gangrene spread to a very small extent, but with the ulceration which followed, so much skin was removed as to expose the ends of the radius and ulna, about an inch of which perished, and separated four or five months afterwards.

The patient left the hospital on the 18th of August, 1844, the stump perfectly cicatrized, but suffering almost

constant pain from the pressure of the exostosis on some of the axillary nerves. He is now alive: the general health good, the stump covered with integument and a small cicatrix; but he is still subject to severe pain, caused apparently by the exostosis.

UTERINE CONTRACTIONS IN PARTURITION NOT SUSPENDED BY ETHER VAPOUR. PROFESSOR SIMPSON, after detailing several cases in which ether vapour was employed during labour, observes that in all of them, the uterine contractions continued as regular in their recurrence and duration after the state of etherization had been induced, as before the inhalation was begun. The emotion of fear has appeared to me to suspend, in one or two nervous patients, the recurrence of the first pains, after the apparatus was adjusted and its employment commenced; but this effect speedily passed off; and as yet I have seen no instance in which the pains were sensibly diminished in intensity or frequency after the ether had fairly begun to act. Indeed, in some cases they have appeared to me to have become increased as the consciousness of the patient became diminished. This has more particularly occurred with one or two patients, who breathed ether, combined with tincture of ergot, or containing a solution of its oil. A woman was brought into the Maternity Hospital on the 28th February, after being in labour for 30 or 40 hours. It was her second child. Subsequently to her entering the hospital, at seven P.M., scarcely any decided uterine contraction could be said to take place. The os uteri was well opened, but the head was still high in the pelvis, and when I saw her at four A.M. of the following morning, nine hours after her entrance into the hospital, little or no advance whatever had been made, and the case was becoming an anxious one. She was then made to inhale equal parts of sulphuric ether and tincture of ergot. In the course of a few minutes a series of extremely powerful uterine contractions supervened, and the child was born within a quarter of an hour of the commencement of inhalation. The mother subsequently declared that she recollected nothing at all of her delivery, except the removal of the after-birth. In this case, was the re-excitement of strong pains the result of the action of the sulphuric ether, or of the ergot, or of both? Or was it a simple but very strange coincidence? More facts than I yet possess are necessary to decide such a question; but I have seen some cases which lead me to believe that other therapeutic agents besides those I have named may be readily introduced into the system by means of pulmonary inhalation.*

* Communicated by the author.

MEDICAL GAZETTE.

FRIDAY, MARCH 12, 1847.

THE burst of enthusiasm which has ushered in the use of ether as a means of rendering persons unconscious of pain, while under surgical operations, having had time to expand itself through the length and breadth of our land, it becomes us, as journalists, to consider calmly whether our present experience of the influence of this new agent is really confirmatory of, or in opposition to, the glowing paragraphs almost daily found in our newspapers:—whether, in fact, the introduction of this medicine, for the purpose alluded to, has been productive of the unmixed good that the public have been led to believe,—and whether, in estimating its value, medical men have followed that discreet, philosophical, and respectable course which might have been expected from the members of a liberal profession.

It is a well known fact, that intoxication, whether produced by ordinary potations, by opium, by Indian hemp, or indeed by many other substances, does, when it is carried far enough, produce in the system a state marked by, a more or less complete unconsciousness of pain; and this, with respect to opium and hemp, whether taken into the stomach, or when introduced into the lungs by smoking. The same, or a similar condition, is induced by the use of ether. It is true we have not been accustomed to introduce ether into the stomach for the purpose of inducing intoxication, previous to the performance of surgical operations; but we are by no means convinced that its effects would not be equally remarkable were it so applied, or that the plan

might not be accompanied with less risk, than when it is introduced into the system through the agency of the lungs. While the stomach is modified for the reception of various substances, the lungs are organised for the introduction of atmospheric air, and it is constantly observed that the air-passages become impatient under the presence of the ether vapour, as well as under many other gaseous fluids.

Under ether intoxication the most severe surgical operations may often be performed, and the patient, when the influence is dissipated, will assure those around him that he has experienced no pain, and that he has been probably under the influence of a pleasant dream. It is, however, certain that under the knife, patients thus intoxicated will struggle, or even scream, violently; and yet, when all is passed, they will tell you that they have been totally unconscious of the proceeding which has given rise to it. It is also the fact, that many signs of exhaustion may be apparent afterwards, and they may be quite as decided as those which are observed after ordinary operations, and indeed much more than might be expected to occur after unimportant operations. How these circumstances are to be explained it is not easy to determine; some persons suggest that it is owing to a strong preoccupation induced in the brain by the intoxication,—others maintain that the power of perception is for the time extinguished, as you stupify the brain and make it insensible to pain by an overwhelming dose of opium; and by them the convulsive movements are referred to a reflex action. Whether any of these explanations be correct is doubtful.

The fact, however, still remains—certain indications of pain are apparent, although the patient, when the

influence has ceased, is not aware of anything which could have given rise to them; and certainly there is often as much appearance of exhaustion as might be expected from the apparent amount of suffering*.

These facts being admitted, it may next be asked—Can we determine in advance what dose of the vapour the patient may require to produce the wished-for effect, as we can determine what dose may be required by certain remedies to produce a given effect?—(as we know, in fact, that in nineteen cases out of twenty a scruple of jalap will purge—a scruple of ipecacuanha will vomit). Certainly not; for if we take two similar kinds of apparatus, with a like quantity of similar ether in each, of the same temperature, and let it be inhaled by two patients with the same rapidity,—in one the desired effects may be obtained within five minutes; in the other it may be not for a quarter of an hour; and there is no certain sign by which we can be assured that the patient has had enough. The state of the pupil and the state of the pulse are extremely variable, and therefore not to be relied on; probably the best test is the change in the breathing. Then it also happens with ether, as with opium, or, indeed, any species of intoxicating substance, that the form which the intoxication may assume cannot with any certainty be predicated. One man, under opium-smoking, will become stupidly insensible—almost comatose; another will become furious, and “run a muck,” as is often observed in the East. Under ether, probably one case in twenty will be accompanied by this sort of excitement.

Then, as to the operation itself, it is not always desirable that the patient should be unconscious: it is sometimes

* See page 130.

well to know how much suffering is experienced—whether nervous cords are unnecessarily interfered with, and so on. No surgeon, while opening a hernial sac, or making a section of the prostate, could regard without apprehension the chance of some convulsive movement. When a patient's senses are entire, these things do not often happen; but during intoxication he may bring his jaws together while a cutting instrument is in his mouth.

Supposing it to be admitted, however, that the administration of ether under ordinary circumstances is a certain means of rendering a patient insensible during operation (which is by no means the case), and supposing the dose could be exactly adapted to every case, and supposing the effects to be uniform, do we know of any evil consequences which have up to this time resulted from its use?—and are they of so serious a character as to make a prudent man hesitate in recommending his patient to become subject to its influence?

Great excitement of the nervous system, sometimes approaching to apoplexy,—an asthmatic condition of the respiratory organs,—spitting of blood, syncope,—are among the results which have been observed; but these are by no means the worst. In many instances—already we are aware of six or seven—death has followed quickly upon operations so performed. It may be that in some of these cases death would have resulted even had the ether not been inhaled*; but, as far as we have been informed, several of the deaths have occurred under circumstances which are not observed under ordinary operations. It is to be regretted that the same alacrity is not shewn in furnishing journals or news-

papers with these fatal cases as with the "dexterous operations." We are sorry to say it, but we believe it to be the fact, that none of these cases, with the exception of that reported by Mr. Nunn, have been recorded in this country.

How different is the conduct of M. Jobert, the distinguished surgeon of St. Louis, at Paris. At the sitting of the Academy of Medicine, held February 16th, he stated that in two cases death after operation had occurred in his wards, and that the inhalation practised in both instances did not appear to him to have been altogether unconnected with the fatal issue.

Why there should be this want of common honesty we cannot conceive. There are few persons who do not concede the necessity of fairly trying the agent; and, if that be admitted, its failure cannot attach any reproach to the operator unless there have been a want of proper caution in the administration. So far as the effects have been at present observed, they do not justify us in condemning the agent, but they show us the necessity of grave circumspection in its employment.

There is another matter connected with this subject which presses more heavily upon us; and it is under a strong sense of duty that we raise our voice against it. We allude to the system by which this discovery has been introduced to the public. It is so inconsistent with that self-respect which should actuate the conduct of every member of a liberal profession, that we could not be silent without a failure of the duty which we owe to those who pursue the higher path. To extend invitations to be present at operations to every layman of his acquaintance is surely not the way in which an enlightened surgeon would seek to advance the cause of science. Under this

* For a case, reported by Mr. R. Nunn, in which the ether appears to have been the immediate cause of death, see our last number, page 414.

new agent the phenomena, where females are concerned, are often so peculiar, that the opportunities of being present are sought for by some persons as a means of gratifying a prurient curiosity: and what is not less to be deplored, is the fact that what is observed has the effect of influencing incorrectly the judgment of people whose infirmities may render them the subjects of operation, but cannot tend to the advancement of science.

The experiments have been in many instances so made, that the public are no longer spectators only, but judges of the propriety of the administration of the remedy;—and patients now direct that ether shall or shall not be employed, instead of allowing the practitioner freedom of action.

It is with much pain that we have observed the headlong pursuit of any opportunity for performing surgical operations,—sometimes even without urgent necessity, — because they are likely to come before the public. One day it is the section of tendons, another the administration of ether;—and we are confident that nothing tends more to shake public confidence in professional men, than the restlessness with which each new phantom is followed and abandoned.

But what is still less worthy is the system of puffing in the public papers to which the inhalation of ether has given rise. The presence of a newspaper reporter, however able in his own field, is not necessary in the operating theatre of an hospital, and he can scarcely be a competent judge of the merits of a surgical operation. A surgeon would scarcely say that an amputation was performed in a masterly manner, when the soft parts, left to cover the bone, were insufficient for the purpose, by an inch and a half, the bone being left protruding; and yet such an operation has so fascinated

a reporter that he could scarcely set any bounds to his glowing description of its excellence. Is it ignorance, or something corrupt which affords the readiest explanation of these things?

It will not do for us to wrap ourselves up in our mantles, and to inveigh against Holloway and others, if quasi respectable members of our own profession, and even Hospital Surgeons, await only a convenient opportunity to advertise themselves in terms as gross and as objectionable as those of Culverwell, Goss, and others.

Reviews.

Clinical Illustrations of the Diseases of India; as exhibited in the Medical History of a Body of European Soldiers for a series of Years from their arrival in that Country. By WILLIAM GEDDES, M.D., late Surgeon of the Madras European Regiment, &c. 8vo. pp. 492. London: Smith, Elder, & Co. 1846.

RATHER more than a twelvemonth since, we took occasion to observe the small number of original works which had, for some years antecedent to that period, been published by medical men practising in India, expressing a conviction that it was not owing to any deficiency either in the powers of observation or in the industry of these gentlemen that their comparative want of communicativeness was due, and venturing to suggest that there still remained many important forms of tropical diseases which required illustration at their hands. We are happy to perceive that the above hints have not been disregarded, and that within the last year a very considerable number of interesting and important monographs on many forms of disease peculiar to the residents in hot climates have been published by medical officers who have served in the East Indies. Most of these treatises have already received due meed of praise in the pages of the GAZETTE, but there still remains to us the pleasing duty of acknowledging the merits of Dr.

Geddes's elaborate and practical work, which, while it embodies a large amount of useful information relative to various forms of tropical disease, does infinite credit to the author as a very careful observer, and as a most industrious collector of facts. We must, however, not refrain from stating that Dr. Geddes's observations do not, upon the whole, throw any very new or important light upon the pathology or the treatment of the diseases in question: his treatise is a work of elaborate detail, rather than one of argument and deduction; and it also, in many of its portions, strongly displays the defect of having been formed at a period when many important questions at present under discussion were still unmooted,—a circumstance which leads to the unavailing regret that the abundance of facts observed by the author afford but very partial illustrations of those debated subjects.

The author states, in his introduction, that the observations contained in the volume before us are founded upon his own observation, during a period of four years (terminating in the year 1833) of a body of 694 European soldiers, who, during the earlier portion of that time, were stationed at Masulipatam,—a low sandy spot left by the receding of the sea, on the coast of the Bay of Bengal,—and who, during the remaining period of his attendance, were posted at the inland station of Kamptec, which is situated in an elevated position, and is equidistant from the eastern and western coast of the Peninsula of India, being about 400 miles distant from either. This variety of situation must, we apprehend, have afforded the author ample opportunities of observing any variations in the types of disease which may be determined by locality in that climate.

The following extract will be interesting, as shewing the proportionate frequency of various diseases attacking young and previously healthy persons recently arrived in India. It must be premised that the author adheres throughout his work to the numerical method, deducing nearly the whole of his remarks from very elaborate tables. Dr. Geddes is convinced that, in usual circumstances, there is in India no disease of the nature of what has been named a seasoning one, which is generally understood to affect Europeans

at some period shortly after their arrival in the warm climates of the West. "It is true, indeed," he remarks, "that for the first few months of his residence in India the young soldier is in general more frequently on the sick-list than at any after period of his sojourn there." But he conceives that the diseases which occasion this circumstance are often to be referred to causes connected with the drill necessary for the recruit,* or with the change of habit and food consequent to his landing after a long voyage in a country so widely different from his own as that of India.

He continues—

"In 518 of the above new arrivals, 73 persons had been admitted into hospital within forty days from their landing in India; 163 in from 40 to 100; 86 in from 100 to 160 days; 81 thence to 250 days; 40 from that period to 12 months; and the remaining 75 were not in hospital until after a greater length of time. The first diseases of the 236 individuals who were admitted within 100 days after their arrival in India, were as follow:—Fever, 7; dysentery, 25; hepatic disease, 5; 2 abdominal, and 1 cephalic, inflammation; diarrhoea, 25; rheumatism, 12; dyspepsia, 13; syphilis, 21; local complaints, 70; and a variety of minor complaints, such as catarrh, constipation, &c., amounting to 55. The first diseases of 167 who were in hospital for the first time, in from 100 to 250 days after their arrival, were—fever, 15; dysentery, 8; hepatic diseases, 4; abdominal inflammation, 2; cephalic inflammation, 1; diarrhoea, 10; rheumatism, 7; dyspepsia, 22; cholera, 2; syphilis, 15; local diseases, 56; and other complaints, 25. Of the remaining 115, who were not in hospital until after a period of 250 days after their arrival, some of them not being on the sick-list until the season in which fever prevailed very generally at Kamptec, the first diseases were—fever, 32; dysentery, 10; hepatic diseases, 4; abdominal inflammation, 2; diarrhoea, 4; rheumatism, 6; dyspepsia, 8; cholera, 2; syphilis, 7; local diseases, 32; and others, 8. Hence it appears that there is a greater pro-

* If it be clearly established that the process of drilling is attended with circumstances which greatly endanger the health of the soldiers, and which must hence tend considerably to impair their subsequent efficacy, we apprehend that means might be adopted of imparting the necessary training to the recruits previously to their removal from this country. Still, it cannot be expected that the authorities will consent to any alterations in their customary arrangements, unless the absolute necessity for such changes be satisfactorily proved by a concurrence of medical testimony.

portion of local diseases, diarrhoea, and the class of peculiar complaints, among the earlier causes of admission to hospital, than in future attacks of illness; that dysentery, indigestion, or syphilis, are nearly equally numerous, either as first or after diseases; and that fever, hepatic disease, and rheumatism, are more frequently met with after the patient has been once or oftener in hospital, than among his earlier diseases." (pp. 78-9).

Still, it is to be regarded as a somewhat grave fact, that, even in one per cent. of the individuals who arrive in India, hepatic disease makes its appearance within a hundred days of their landing!

Dr. Geddes has given some interesting particulars with regard to the rate of mortality in the troops under his charge. He observes—

"The number of deaths which occurred in hospital from 1st July, 1828, to 1st July, 1833, amounts to 133; being one in 57 of the sick under treatment, or somewhat less than two per cent. To these, however, ought properly to be added seven individuals, who either died a natural death before being brought to hospital, or whose diseases, contracted while at head quarters, proved fatal when the persons affected had been sent to a distance for the benefit of their health. The whole, being 140, forms a mortality from natural causes in the course of five years, in a body of Europeans in India, averaging 533 individuals: this approximates to 26 per cent. in this period, or an average of five per cent. of the numerical strength in each year. Deaths from cholera, however, being removed, the rate of mortality is reduced to 20 per cent., or an annual average of four per cent." (pp. 80-1).

The facts adduced by Dr. Geddes respecting the influence of the age of recruits at the time of their arrival in India, in predisposing to diseases of a fatal description, are of considerable importance. It appears from his tables that—

"In recruits arriving before or at 20 years of age, the early deaths are comparatively few, apparently from the facility of change in the constitution at this period of life. The same is the case, although in a less degree, among those arriving in India about the ages of 21, 23, and 26 years; arising, it is believed, partly from the constitution being somewhat more formed at this age than at that of 21, 22, or 23 years, while there is still some facility of change in it; and partly from there being in general greater steadiness of conduct in such indi-

viduals than among the younger recruits. A greater degree of mortality continued to shew itself for a lengthened period among those coming out at the ages of 21, 22, and 23 years, than in the other two classes just mentioned; but, after four years' residence in India, the proportion of deaths in those arriving at the ages from 24 to 26 inclusive, exceeded that of their earlier sojourn, while that of the youngest class became considerably less. The deaths among those men who arrived in India at a more advanced age than 26 are in greater proportion than among the younger soldiers. This is equally apparent at all periods of their residence in that country." (pp. 82-3).

Dr. Geddes appears to entertain doubts whether the quick passage to India by the overland route, now so generally adopted, may not have some influence in producing peculiar diseases on the arrival of Europeans in that climate. He, however, merely throws out the hint as a matter worthy of investigation, suggesting the inquiry, "Whether the lengthened voyage by the Cape of Good Hope does not possess advantages in respect to the gradually accustoming strangers to a residence in a warm country, which may render this always the most eligible route for such individuals to proceed to that part of the world."

Another table is given for the purpose of shewing the connexion between the season of arrival in India, and the time and cause of death.—

"By this table it appears—although it is difficult to explain the circumstances, excepting as an accidental one—that persons arriving in the cold season have died in greater proportion than those arriving at other periods. Thus, in 217 individuals who landed in India in the cold season (all, with the exception of five, in January), 55 deaths occurred, or one in four; while of 392 who arrived in the wet season, 74 deaths took place, or one in five; and in 85 arrivals, from March to June inclusive, the deaths were only 12, or one in seven." (p. 83).

The principal diseases treated of at length in this volume are fevers, diseases of the head, thoracic inflammation, hepatic inflammation, abdominal inflammation, and rheumatism. This list of course only comprises a portion of the diseases which are most prevalent in India; but the author expresses a wish and intention to extend his researches over the remaining diseases of which he has records in his possession. The article on fever contains

many important facts; but we think that in this, as well as in most of the other portions of his work, Dr Geddes has overloaded the subject with numerical details. Accurately drawn tables are undoubtedly of great value in the development of a large proportion of the facts with which the medical practitioner has to deal; but questions of diagnosis and treatment are not susceptible of much elucidation by statements of the average proportions in which various obscure diseases have occurred, and of the mean amount of physis which has been employed in their cure.

The remarks on head affections contain several particulars worthy of notice, especially those with regard to the influence of the climate of India in producing a greater tendency to epileptic attacks than among the general population of a colder climate. The observations on thoracic inflammations do not present any points of especial moment. The author's experience of hepatic abscess has been rather extensive; his remarks on the association of this disease with dysentery will be read with interest by those who are engaged in investigating the doctrine advanced by Dr. Budd—that in cases of this description the purulent depots are the results of the entrance of pus globules into the portal vessels from ulcers in the intestine, and their subsequent lodgment in the capillaries of the liver. Dr. Geddes's observations are not, however, directed to the elucidation of this question: indeed, they do not by any means remove the doubt as to whether hepatic disease is the consequence, or the cause, or the mere accompaniment, of dysentery: still, they do prove the great frequency with which the two diseases occur coincidently; and they also appear to prove that idiopathic abscess of the liver may occur in India in cases where no intestinal ulceration whatever exists. But this last part of the evidence afforded by the author's cases may possibly be objected to on the score that, to decide this question satisfactorily, the absence of suppuration in every portion of the mucous tissues from which portal vessels pass must be accurately determined.

The author states, that the number of individuals who died from hepatic abscess within the four years of the

author's experience amounted to 21; but the number of patients from whom his observations have been derived amounts to 31.* With regard to the previous health of these patients, it is observed that—

"In 15 of those who eventually died from abscess in the liver, there had been either no admission to hospital until that indicating the formation of the disease, or their sickness had been of a trivial nature, having no possible connexion with hepatic disorder. In nine, the patients had been the subjects of dysentery; in four, one of whom had also been affected with splenitis, they had been confined to hospital with rheumatism; one patient had been admitted with jaundice." Another had suffered from catarrh three years previously. "Upon the whole, with the exception of dysentery, and perhaps of rheumatism, it does not appear that abscess of the liver is often the consequence of any other disorder. Dysentery, too, is a very frequent symptom of hepatic abscess; and it is not improbable that, in some of the cases registered thus, the hepatic affection may have already occurred, and proved in such instances a cause, and not a consequence, of the dysenteric disorder. The connexion, in short, between dysentery and hepatic abscess, is such, that it is difficult in certain cases to say which is the original disease; and, although due weight has been given to the attendant circumstances in forming a diagnosis, there has been a doubt, in arranging some of the dysenteric cases of patients where hepatic affection has afterwards become more decided, whether they should have been considered as idiopathic diseases, or as symptomatic of the liver disorder." (p. 311).

With regard to the state of the intestines during the fatal attack, the author mentions that—

"The most conspicuous of those symptoms which have been considered to depend upon sympathy with the diseased liver, has been disorder of the large intestines. These appear to sympathise peculiarly with the state of the liver; and few of the cases of abscess in this viscus have been unattended with some degree of affection of the bowels in some part of their progress. The degree, however, to which the disorder has extended, the period of the abscess at which it has showed itself, and the permanency which the dysenteric symptoms have exhibited after their commencement, have considerably varied. In one class of cases the

* The history of one of these cases, being incomplete, does not enter into all the inferences resulting from an analysis of the other cases.

patient had been subject, for some months or weeks, to occasional attacks of dysentery, or had been once severely affected with this disease, sometimes accompanied with pain about the liver, or abdomen; but as the affection of the former became more prominent in the latter periods of the complaint, the dysenteric disorder became less conspicuous; and the bowel complaint was not a very urgent symptom at the death of the patient. Such was the progress in 13 of 29 instances of this disease." "In 6 other cases the affection of the bowels did not become prominent until nearly the death of the patient, when it presented, in the various periods of its progress, the same features as the above; increasing in some instances towards the fatal termination, and in others becoming less urgent as the patient sunk. In another description of cases, the fatal termination has evidently been accelerated, if not immediately produced, by the severity of the dysenteric affection. This has been observed in 7 individuals: in two of whom the abscess was a solitary one in the right lobe of the liver, and the remaining five comprised all the cases which presented numerous abscesses in that viscus." "In the remaining 3 cases, all of which quickly ran their course, there was little affection of the bowels. The stools were more frequent than is natural; loose, and of an unhealthy colour, chiefly of a dark greenish, or greyish-green hue; but these appearances were by no means of a conspicuous nature, and may be attributed, in some measure, to the treatment which was employed." — (pp. 350-1-2.)

In twenty-six cases, therefore, out of twenty-nine, the existence of severe bowel complication appears to have been very apparent, while in the remaining instances the presence of a certain amount of intestinal disease could not be positively denied. It is to be regretted that, in the account of the dissections, no allusion is made to the condition of the small intestines in any of the cases. With regard to the state of the lower bowels, the author states that—

"In the large intestines, the diseased appearances were generally in proportion to the degree of dysenteric affection immediately preceding death. In 13 cases, where there was either no irregularity, or the bowels were inclined to constipation, or the evacuations, although loose, were more of a diarrhoeal nature, and generally unattended with blood, little or no disease, with the exception of some contraction of the colon, was met with. In the remaining

cases, ulceration, or disease, was discovered in all degrees, in proportion to the previous dysentery, and varying from one or two superficial ulcers in the head of the colon to general ulceration, with thickening of the large intestines. It may be remarked, that of 28 dissections, the large intestines were found considerably diseased in 10 instances. One half of these occurred in the cases where there were numerous abscesses in the liver; in two, the abscess was seated in the upper and posterior part of the right lobe; in one, on the margin, and in another, in the upper part of the same lobe, and, in the remaining case, in the upper part of the left lobe. The circumstance most usually observed in those individuals was, that where the intestines were healthy, the abscess was found either in the upper and outer part of the right lobe, or deep seated in the lobe." — (p. 363.)

With reference to the duration of the hepatic abscess, it is mentioned that—

"In the five cases where there were numerous abscesses, there was a resemblance to each other in the short period taken up from the appearance of the first symptom of the disease, till the fatal termination; and also in the affection of the bowels. Thus the duration of the disease, from the earliest record indicating its existence until the patient's decease, ranged from 22 to 70 days: the average being 45; while in all the cases, the intestines became much ulcerated previous to death, the dysenteric symptoms being the chief cause of this event." — (p. 342.)

It has always appeared to us that these cases of hepatic abscess differ from the instances in which there is reason to suppose that the formation of purulent depots in the liver is due to phlebitis and consequent purulent infection, in the fact that, while the symptoms in the latter cases generally, if not invariably, assume a most acute character, and terminate fatally in a few days,—in the former instances life is generally prolonged for some weeks, and sometimes even for months.

The remarks on rheumatism appear to us to be of but little practical value, as a proper distinction has not been drawn between the various forms of disease which have been arranged by the author under this head. Cases of acute and chronic rheumatism, and of rheumatic pains and swellings occurring in patients at various stages of syphilis, are all placed together in this chapter, and in many paragraphs the

symptoms, &c. of these perfectly distinct affections are inextricably jumbled together. At the time when these observations were made the author does not appear to have been prepared to meet with cardiac disease in cases of acute rheumatism; no reference is made to this important point, except an occasional allusion to the existence of pain in the site of the heart.

Upon the whole, Dr. Geddes's work is one which does great credit to the knowledge and indefatigable industry of the author, and we shall be happy to welcome its appearance in a completed form. It is replete with data which cannot fail to be valued by all medical men practising in the East.

Lectures on the Comparative Anatomy and Physiology of the Vertebrate Animals, delivered at the Royal College of Surgeons of England, in 1844 and 1846. By RICHARD OWEN, F.R.S. Hunterian Professor, and Conservator of the Museum of the College. Part I.—Fishes. Illustrated by numerous Woodcuts. 8vo. pp. 308. London: Longman and Co. 1846.

WE have rarely met with a work in which the fundamental points of a science were so well combined with the most interesting subjects of its details as in these valuable lectures by Professor Owen. His previous work on the Invertebrata will have fully prepared all those who feel interested in the beautiful science which displays the transitional development of animal bodies from the simplest form of the rudimentary monad up to the highest organisation of the vertebrate animals, to look eagerly for a continuation of the same subject; and we can assure our readers that the present volume is fully equal to any of the author's previous works.

These lectures comprise an admirable sketch of the anatomy of the vertebrate animals, and a minute account of the osseous, muscular, nervous, digestive, vascular, pneumatic and renal, and generative organs of fishes.

The following extract will afford a good specimen of the author's style of conveying information; and will also be interesting to the generality of our readers, as illustrative of a well-known congenital defect to which the human

fœtus is occasionally subject—*spina bifida*.

"An extremely delicate fibrous band, with successively accumulated gelatinous cells, compacted in the form of a cylindrical column, and enclosed by a membranous sheath, is the primitive basis, called '*Chorda dorsalis*,' in and around which are developed the cartilaginous or osseous elements, by which the vertebral column is established in every class of *Myelencephala*. The earlier stages of vertebral development are permanently represented, with individual peculiarities superinduced, in the lower forms of the class of fishes. In the anencephalous Lancelet (*Branchiostoma*), the lowest of all, the entire vertebral column consists of the gelatino-cellular cord and its membranous sheath. In the Lamprey cartilaginous arches and spines are added above the *chorda dorsalis*, in the membranous wall of the neural canal, and in the tail, also beneath it. In the sturgeon and chimæra, the bases of the cartilaginous arches enclose the '*chorda*.' In the *Lepidostiren* the neural and hæmal arches and their spines are ossified, but the centrums are still confluent as a dorsal membrano-gelatinous cord. In many sharks and rays the '*chorda*' is encroached upon by osseous or cartilaginous convergent laminae, and by concentric, successively shorter, centripetally developed cylinders, and is thus reduced to a string of gelatinous beads, each bead occupying the interspace between the opposed concave surfaces of the vertebral bodies. This moniliform state of the *chorda dorsalis* is persistent in most osseous fishes, the biconcave bodies of the vertebrae being perforated in the centre; whilst, in some other osseous fishes, the gelatinous biconical segments of the '*chorda*' are insulated by the completed centripetal progress of ossification; and, in one exception (*Lepidosteus*), they are converted into osseous balls, fixed to the fore part of each vertebral body, which plays in the concavity or cup of the next vertebra in advance. The neural and hæmal arches and spines are bony in all osseous fishes; and in all fishes chondrification and ossification of the vertebral column commences in their arches. In reptiles, birds, and mammals, the vertebrae are bony throughout" (p. 45).

The author states in his preface, that the desire to verify some of the propositions enunciated in the course of his oral demonstrations, by repeating the observations on which they were founded, has led to many new dissections and examinations of various specimens. In addition to this, the utility of the present volume has been further

enhanced by the addition of some remarkable discoveries with which the science of Comparative Anatomy has been enriched since the lectures were originally delivered, and by the introduction of details which the time allotted to the Hunterian course compelled Professor Owen to omit in the theatre.

A careful study of this volume is indispensable for every anatomist who is desirous to keep pace with the advance of science. To the student also, and to all who are capable of appreciating the beautiful science of natural history, it will prove a store of most interesting and satisfactory information.

A Dictionary of Practical Medicine.
By JAMES COPLAND, M.D. F.R.S.
Part XI. — *Pestilence to Pleura.*
London: Longman and Co. 1847.

We wish it were in our power to announce more frequently the appearance of those parts of this excellent Dictionary which are necessary to render it complete. Inquiries are frequently made by correspondents respecting the probable period at which the author will bring his labours to a close. It is to be hoped that, in order to keep the work uniform, and to prevent the Dictionary becoming ancient in its early parts, the author will use due diligence, and carry us with a little more rapidity through the remaining letters of the alphabet.

Part XI., now before us, like that which preceded it, is chiefly devoted to the subject of PESTILENCE. A large portion of Part X. was occupied with a description of cholera. In this part we have not only a full history of the hæmorrhagic pestilence, or yellow fever, and the glandular pestilence, or plague,—but what is of especial interest at the present time, when it is proposed to make sweeping alterations in the quarantine laws, a section on *Protection from Pestilences*. The author is a strong advocate of a judicious system of quarantine, and the arguments by which he enforces his opinions appear to us unanswerable. Perhaps a little more space might have been given to the consideration of this subject; but Dr. Copland's style is terse, and he thereby contrives to give in a small space, a large amount of information.

This part is concluded with an account of diseases of the pleura. The bibliographical summary at the end of each article shows that no small amount of labour has been bestowed by the author upon the collection and arrangement of his materials. We trust that we may soon have to announce the appearance of the twelfth part.

Body and Soul: or Life, Mind, and Matter, &c. Illustrated by Drawings.
By GEORGE REDFORD, Surgeon.
8vo. pp. 232. London: Churchill.
1847.

In this Essay, which is addressed to the general reader, Mr. Redford does not profess to impart new views, or to employ new arguments, in order to show the fallacies of some modern theories of life and mind; but in making use of the researches of others, his object appears to have been to discuss in a short space, and in simple language, some of those problems which still continue to puzzle physiologists and metaphysicians. Mr. Redford is a staunch anti-phrenologist, and the latter part of his work is devoted to a somewhat caustic analysis of the plausible doctrines of Gall, which have had the effect of making so many English converts, at least in the gentler sex. The author contends that phrenology not only derives no support from anatomy and physiology, but that its principles are wholly opposed to the received doctrines of these sciences. By the disciples of Gall, his arguments will be probably denounced as unsatisfactory; but to us, although very concisely stated, the positions on which they are based appear unanswerable. There is an occasional slipperiness of language which the author would have done well to avoid, although we admit that he might fully justify the employment of the weapons of sarcasm and ridicule by the example of his adversaries.

Facts which prove the immediate Necessity for a Measure of Sanitary Reform. By J. C. HALL, M.D. of East Retford. 8vo. pp. 10. London: Longman. 1847.

THIS is a sensibly written essay upon a subject which is now engaging the attention of professional men, and which is likely, before long, to give

rise to discussions in Parliament. The facts accumulated by Dr. Hall undoubtedly prove the case which he has set up for immediate legislative interference. The pamphlet contains a fair statement of the influence of bad drainage and sewerage in increasing the rate of mortality, as well as of the injury to health arising from the continuance of intra-mural interments amidst crowded populations; and lastly, what will closely concern the political economist, the comparative expense to the public of improving the health of the community by sanitary measures, or, under the present system of neglect, of allowing our pauper hospitals and infirmaries to continue crowded with the sick. Facts and figures, our author contends, go to prove that "the greatest tax on property and income arises from deaths and diseases which an efficient cleansing and drainage of our cities, towns, and villages, would extinguish" p. 54. The Essay is concluded with some remarks on the application of town-refuse to agricultural purposes.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

February 23, 1847.

DR. COPLAND, F.R.S., in the Chair.

Case of Elephantiasis. By GEO. SOUTHAM, Surgeon to the Salford Royal Hospital and Dispensary, Manchester. [Communicated by Mr. T. B. CURLING.]

THE patient, an unmarried female, first came under the author's notice in the autumn of 1843. The disease had then existed about twenty years, and commenced when she was in her eighteenth year, on the dorsum of the foot, having been preceded by attacks of deep-seated pain. As the oedema extended, the pain became more severe, and the integuments became the seat of frequent erysipelatous attacks. A large ulcer formed on the inside of the thigh, and three others near the ankle. The only cause assigned for the disease was the sudden cessation of the catamenia from cold. A drawing of the disease, taken in 1845, was exhibited to the Society; the measurement round the calf of the leg was two feet nine inches; above the knee, three feet four inches; and at the upper part of the thigh, including the nates, five feet six inches. Owing to the integuments having yielded unequally, the leg had

a somewhat lobulated form; there was neither induration nor pain on pressure; the sole of the foot was the only part of the limb not implicated. She was able to go about the house, and assist in household duties, until within a few weeks of her death, which took place on the 21st of November last, from an attack of dysentery.

On examining the body, the enlargement was found to have been caused by the deposit of a dense, white, lardaceous substance, interspersed with fat, in the subcutaneous cellular tissue. The principal venous trunks were much larger than natural, and when divided transversely, were patulous. The coats were thickened and converted into a fibrous substance, disposed round the vessel in laminae. All the smaller vessels, when divided transversely, resembled arteries filled with coagula. The disease in the veins had not extended beyond the groin; those of the pelvic cavity were sound; the viscera were healthy; nothing beyond slight hypertrophy of the epidermis and cutis was detected in the skin.

The author remarks, that he has been informed by several medical friends who saw the patient, and who had witnessed elephantiasis as it is met with in the natives of South America and the West Indian Islands, that the tumefaction seldom attains so great a size as was observed in the case now related. From the appearances found on dissection, it is evident that the disease originated from repeated attacks of subacute or chronic inflammation of the venous capillaries, which caused the pain and febrile symptoms. The author is of opinion, that the immediate cause and pathological changes of elephantiasis bear an intimate relation to those of phlegmasia dolens and the induration of the cellular tissue, in new-born children: the apparent differences depending on the degree of venous obstruction and on the remote influences which have originated it.

DR. COPLAND said that the case before the Society was more fully detailed, both as regarded its history and progress, than any previously published. It was an interesting question, whether the disease was one affecting the veins only, or the lymphatics, or both.

MR. CURLING would mention a case, because it had been probably overlooked by the author of the paper. It was quite as remarkable an instance of the disease, and was recorded by M. Chevalier in the second volume of the Society's *Transactions*. The limbs in each case were nearly of the same dimensions. In M. Chevalier's, the enlargement commenced after an attack of phlegmasia dolens. The original drawing of the leg and the foot were in the museum of the London Hospital, having been purchased at

Mr. Heaviside's sale. He had at the present time a case of this disease under his care in its early stage. The patient was a boy nine years of age. The disease affected the right lower extremity, which was as large again as the left. The greater enlargement was in the leg, but the thigh was much thickened. It originated in a blow on the leg given by a schoolmaster. The boy was improving under treatment, and he hoped to effect a cure by supporting the limb, and administering the liquor potassæ. In answer to a question, Mr. Curling said that he had not been able to detect any obstruction in the femoral or other large veins of the lower extremity; but this would be difficult, owing to the thickened state of the skin. The glands were enlarged on both sides, but more so on that in which the disease was situated.

On Tubercular Pericarditis, with Pathological and Practical Remarks. By GEORGE BURROWS, M. D.

After alluding to the rapid advances made in our knowledge of diseases of the heart during the past twenty years, the author refers to the paper of Dr. Taylor, on the Causes of Pericarditis, published in the twenty-eighth volume of the Society's *Transactions*, where that physician assigns rheumatism, granular disease of the kidneys, and extension of inflammation from contiguous parts, as the chief causes of pericarditis. To this opinion the author assents, but invites the attention of the Society to another form of that disease, which he designates tubercular pericarditis. After taking a review of the statements of different pathologists who have described tubercular deposits in the pericardium, more especially of the descriptions of Baillie, Laennec, Andral, Louis, and Rokitsansky, and of the opinion expressed by the latter, that tubercular diseases of the pericardium are the consequence, and not the cause, of chronic inflammation of that membrane, the author proceeds to detail three cases of tubercular pericarditis.

CASE 1.—A young Italian was admitted into St. Bartholomew's Hospital, labouring under the symptoms of incipient phthisis. After three weeks' residence in the hospital, the appearance of blood in the sputa caused a careful examination of the chest by the stethoscope to be made, when the physical signs of unsuspected pericarditis were detected. The friction-sounds of pericarditis were heard through fifteen consecutive days, and then subsided, leaving no cardiac murmur. At the expiration of two months, a fresh accession of fever, and examination by auscultation indicated the presence of double pleurisy, which continued during nineteen days, when the man died. The

post-mortem examination revealed the existence of abundance of effused lymph in the pericardium, of copious serous and fibrinous exudations in either pleura as well as in the peritoneum. Numerous opaque, yellowish tubercles were found disseminated throughout the self-coagulable lymph effused on these membranes. The lungs also contained numerous tubercles in the crude state scattered throughout the different lobes; the bronchial glands and spleen also contained tubercles.

CASE 2.—A young man in Millbank Prison, when convalescent from chronic dysentery, was attacked with the symptoms of incipient phthisis, but auscultation detected no signs of extensive tubercular disease. The young man sunk, and upon examination after death, both lungs were found thickly studded with yellow tubercles, varying in size from a millet-seed to a small pea. The pericardium contained a large quantity of firm lymph, intensely stained with blood; and upon separating the layers of lymph towards the base of the heart, several small yellow tubercles were distinctly recognized in those portions which were most carefully examined. A coloured drawing of this heart was exhibited to the Society.

CASE 3.—A young man, who had been imprisoned at the Hulks and at Millbank, became the subject of dysentery in the latter prison, from which he was convalescent, when he exhibited the symptoms of phthisis. Upon auscultation, Dr. Baly detected the presence of pericarditis, and he was forthwith removed to St. Bartholomew's Hospital. The physical signs of pericarditis were manifest during twenty consecutive days, and then disappeared, leaving the heart exempt from all murmurs. This young man quitted the hospital, convalescent, a few days after the cessation of the pericarditis; and although his recovery prevented the verification of the diagnosis of pericarditis, still the history of the case, so closely analogous to that of Case 2, and the absence of the usual causes of pericarditis, induced the author to regard Case 3 as one of tubercular disease of that membrane. The author then points out the class of cases in which this rare affection may be suspected—viz., in those persons who, having been long exposed to the most powerful exciting causes of tubercular cachexia, exhibit symptoms of incipient phthisis; and yet the auscultatory signs of tubercles in the lungs are inconclusive. In such persons, tubercular affections of serous membranes and of the pericardium should be looked for. The author then considers the pathological question, whether the tubercles are to be regarded as the cause or the effect of these chronic inflammations of the pericardium. After quoting the opinions of Laennec, and

Rokitansky, who appear to regard the tubercles as the result of a change taking place in the layers of fibrin, consequent upon acute inflammation, and which tubercles then cause the inflammation to become chronic, the author endeavours to show that it is more in accordance with our present knowledge of the history of tubercle, to suppose the tubercles to be deposited on the pericardium in the first instance; and that these foreign bodies acting as exciting causes of inflammation there as elsewhere, keep up chronic inflammation. A similar train of phenomena may be observed in chronic tubercular peritonitis. The author concludes by pointing out how inapplicable the usual remedies for pericarditis are in the tubercular variety. Large losses of blood, and the lavish use of mercury, should be abstained from; while counter-irritation over the chest, saline diuretics with combinations of iodine, and the speedy removal of the patient from the influence of depressing causes, are the means most likely to arrest the progress of chronic pericarditis produced by the irritation of tubercular deposits.

MEDICAL SOCIETY OF LONDON.

Monday, Feb. 22, 1847.

MR. DENDY, PRESIDENT.

Gonorrhoeal Bronchitis.—Treatment of Bronchitis.

THE President related a case of a gentleman, aged forty-five, whom he had just left, labouring (for the second time within the year) under symptoms of severe bronchitis. The breathing was difficult—often laborious; the expectoration muco-purulent—often very profuse; there was constant languor, which was much aggravated immediately after severe paroxysms of coughing; there is a sense of constriction across the chest, and the mucous r le is audible at some distance from the patient. There is, however, no fever or permanent excitement; the pulse, naturally about 65, varying little in its character. The disorder has not appeared to be altogether influenced by atmospheric causes, as much caution has been observed since the former attack, but is evidently associated with some remote sympathies, especially with the chylopoietic viscera, as purgatives usually brought away dark, fetid evacuations, with a constant and immediate relief of symptoms. The patient himself associates the disorder with a gonorrhoea contracted three years ago. In the first attack, which was protracted when I saw him, I adopted a combined mode of treatment unloading freely the alimentary canal, and employing counter-irritation on the surface: a seton was introduced on the thorax; blue pill, taraxacum, and conium, with emulsion,

were administered, and concentrated solution enjoined, with modified temperature of the chamber. After a few weeks he began to recover from the emaciation, which had been extreme, and residence in the country completed his convalescence. A superficial view of these attacks would induce a very unfavourable prognosis; but the absence of heat, thirst, and continued pain, and above all, the state of the pulse, prompt me to refer the disorder mainly to the causes above alluded to, and to regard the case without much anxiety. There were occasional remissions of the symptoms, and it was curious to note that each favourable change in the progress towards convalescence was preceded by black specks in the sputa.

MR. HILTON had seen inflammatory rheumatism coming on during the presence of gonorrhoea, and after lasting five or six weeks, give way to remedies; and was succeeded again by the gonorrhoea, which required the usual treatment.

MR. HEADLAND saw no reason to doubt that Mr Dendy's patient would do well, bearing in mind that his pulse was but 68. He believed that the connexion of bronchitis with gonorrhoea was not unusual. Bronchitis also existed in connection with rheumatism and ophthalmia, similar to the ophthalmia denominated "gonorrhoeal," making it appear as though the mucous membranes were influenced by some cause independent of the atmosphere. Were not special remedies likely to be of service in cases of this kind? Would not colchicum, for instance, in Mr. Dendy's case, be of service? He threw out a suggestion that bronchitis might originate in causes quite irrespective of cold, and having reference to some disturbance of the pneumogastric nerve. He then made some observations on the value of special remedies in cases of this kind.

MR. LINNENAR thought that the treatment by colchicum in Mr. Dendy's case would be too depressing. He thought it of service only in cases of acute bronchitis. Would not the balsam of capivi be better? He thought that expectorants and brandy might be employed.

MR. HEADLAND made some observations on the value of opium in the treatment of bronchitis, which, not yielding to ordinary antiphlogistic treatment, was often to be removed by the combination of opium and tartar emetic.

DR. TODD considered that depletion was not often required in bronchitis. In judging of the symptoms that might seem to require this remedy, we should always bear in mind how soon depression supervened in this disease. In cases where there was much debility after the more acute stage was over, quinine and iron might be required.

In other cases, large quantities of opium might be given with advantage, and in other cases again, brandy and water.

Dr. CLUTTERBUCK said that the name bronchitis, as indicating the presence of inflammation of the lining membrane of the air-passages, was as correctly defined under its old title of "catarrh." The subject was at the present time interesting from the prevalence of the affection. He considered that there was nothing peculiar in the inflammation of this part, and that it must be treated on general principles. In the prevailing epidemic, he thought that generally little or nothing need be done, because the tendency of the complaint was to subside spontaneously. He believed that we often did much that we might dispense with. The complaint seemed to follow the same course under various remedies. If unusually active, affecting the general system, and attended with much fever, depletion might be resorted to, but this was the exception. Opium was only useful as a palliative for the cough; he had no faith in tonics, but much in counteraction, as in emetics and purgatives.

WESTMINSTER MEDICAL SOCIETY.

Saturday, Feb. 27, 1847.

MR. HANCOCK, PRESIDENT.

Dr. SAYRE, the retiring president, was elected an honorary member. Prior to the adjourned discussion being renewed,

Dr. SNOW put a green linctus under the influence of ether, by placing it in a glass jar with a few drops of that liquid. In about a minute it fell down insensible, and although kept in the jar about a minute longer, and until it had almost ceased to breathe, it gradually recovered its sensibility on being withdrawn, and in about ten minutes was as active as before.

Mr. HALE THOMSON considered that it made little difference what kind of instrument was used for the exhibition of vapour of ether, provided it were carefully used. He preferred the temperature of the apartment, whatever that might be, and spoke of the necessity of this valuable but powerful agent being confined to the hands of the medical profession.

Mr. HARDING considered that the inhalation would be dangerous in persons inclined to apoplexy, and in patients having disease of the heart, and that it would be injurious in bronchitis.

Mr. NORMAN said that the child of which he had spoken at the previous meeting, as having been put under the influence of ether for the operation for navus, was recovering satisfactorily. He mentioned a case in which the vapour had been administered on

two occasions to a lady threatened with premature labour, with the effect of removing the symptoms of it.

Mr. GREENHALGH stated that the vapour of ether had been given in two cases of bronchitis, in Middlesex Hospital, with the effect of giving great relief.

Dr. SNOW, in his reply, spoke of the necessity of being able to regulate the proportion of ether vapour and of air. With an apparatus consisting of glass and sponges, the quantity of vapour could not even be ascertained, for the air was very much cooled in passing through such an inhaler by the evaporation of the ether. The use of hot or even warm water was very improper about an inhaler, as by it a risk was incurred that the patient might get all vapour and no air.

PATHOLOGICAL SOCIETY OF LONDON.

Monday, March 1, 1847.

Dr. WILLIAMS in the Chair.

Dr. OGIER WARD had made a

Microscopical Examination of Necrosed Bone,

taken from the humerus, which was exhibited at the last meeting. He found the minute structure of bone in no way changed from its normal character; and the only alteration detected was the presence of an orange-coloured deposit around the Haversian canals.

Dr. QUAIN had made a

Microscopical Examination of the Kidneys affected with Medullary Sarcoma,

presented at the last meeting by Mr. Oubr .

He found them to consist of new structure, and the proper secreting tissue in a morbid state. The new structure was formed of a fibrous stroma, the fibres being ill-defined and parallel with each other; of nucleated cells two or three times the size of the bloody discs, oval, spindle-shaped, caudate, and doubly caudate; of blood-vessels and numerous corpuscles.

In reference to the changes produced in the proper structure, which could only be examined at the cones, owing to the cortical structure having undergone complete degeneration, scarcely one of the uriniferous tubes had a natural appearance, many being destroyed. Several were increased in size, and lined with numerous cells, in some degree retaining the normal arrangement. A still greater number of the tubes atrophied, containing irregularly formed cells and granules, and surrounded by the morbid structure.

Dr. Quain concluded, from the above examination, that the disease was, in all probability, medullary cancer; that it commenced by the infiltration of morbid matter, external to the proper secreting apparatus; and that the circumstance of the organ having retained its functions, considering its almost entire degeneration, was a point of great interest.

Mr. NATHANIEL WARD read a communication from Dr. Letheby on a case of

Poisoning by Turpeth, or Turbith Mineral.

G. L.—, aged 16, swallowed, on Tuesday night, Feb. 19th, at twenty minutes past 12, two pennyworth of the mineral: it caused a burning sensation of the mouth and throat; and in about ten minutes he was very sick, and threw up the remnant of a hearty meal of tea and bread-and-butter, which he had taken two hours previously. He now felt scalding pain in the throat, chest, and stomach; and this became so severe that he walked to the London Hospital, where he was admitted under Dr. Frampton. He vomited repeatedly on the road, and was faint and weak. He was admitted at a quarter past one o'clock, and then looked pale, with an anxious countenance, felt cold, and complained of sickness, with great pain in the throat and stomach. Sulphate of zinc, followed by mucilaginous drinks, having been given, he went to bed, and was seen again in half an hour, when he was suffering from great pain in the stomach and oesophagus, and had constant sickness, and a sense of heat and constriction in the throat. He passed a sleepless night, being tormented by pain and cramps in the limbs, constant purging and vomiting. In the morning, in a high state of fever; throat and stomach still painful; the latter somewhat tender on pressure, and so irritable that nothing would remain on it an instant; tongue and inside of mouth red and inflamed, feeling, as he said, "raw;" bowels much relaxed. Leeches were applied to the epigastrium, and mucilaginous drinks, with opium and henbane, were given, without allaying the irritability of the stomach. On Thursday the purging had ceased, but he still complained of his throat; the breath also began to acquire the mercurial foetor, and he spat more than usual. From this time he became weaker and weaker: nothing would remain on his stomach; his mouth and throat continued exceedingly painful, and he became profusely salivated, the gums acquiring a deep bluish tint, and beginning to ulcerate at the margins. This condition increased, but he never lost his senses or became in any way comatose. The debility increasing, he

died at 8 o'clock upon the following Tuesday morning, without any convulsion or struggle,—nearly one week after the administration of the poison.

Post-mortem examination, twenty-seven hours after death.—The body was stiff, well developed, and rather pale, except at the dependent parts, where it was livid, from the gravitation of the fluid blood; the countenance was composed, the parotid and submaxillary regions rather swollen; the lips had a pale-bluish colour, and the gums looked purple and ulcerated at the edges. On opening the chest, the lungs did not collapse, but were so gorged with blood as to be quite black at the dependent parts: a few old pleuritic adhesions bound them to the costal pleurae. The heart was slightly enlarged: it was immensely distended on the right side with black fluid blood; on the left, it was nearly empty. The abdominal viscera were rather redder than natural, and shewed the meanderings of numerous vessels filled with dark blood; the ascending and transverse colon were of a deep leaden colour, and the intestines were contracted throughout their whole course; the oesophagus, from the mouth downwards, was much inflamed, and, for about four inches before it joined the stomach, its mucous coat had become opaque white, and was peeling off in large strips. The stomach contained nearly a pint of dark yellowish-brown fluid: it was not much contracted: its internal surface, especially about the cardia and pylorus, was covered with patches of small petechial spots, as seen in the model, very similar to those arising from the action of arsenic; elsewhere it had acquired a dirty yellowish-green tint, from the presence of much bile. The intestines, throughout their course, were contracted and nearly empty; the little which they did contain looked like bile and thick mucus; the internal coat was everywhere redder than natural, and towards the lower part of the ilium it was covered by numerous isolated petechial spots, of about the size of a hemp-seed; this condition was also very evident in the caecum, and along the whole course of the large intestines; the mucous coat was not anywhere abraded or ulcerated. The liver was enlarged and much congested with dark blood; the gall-bladder was full of bile; the pancreas hard and enlarged; the spleen and kidneys of a deep purple colour, and the bladder empty and quite contracted. The vessels on the surface of the brain were full of black fluid blood; in section there were more bleeding points than natural; the cortical substance looked bluer than usual, but its consistence was normal. Portions of the intestines were broken down by nitro-muriatic acid, and there was distinct evidence of mercury

obtained. I regret that I had not an opportunity of examining any of the urine or saliva which was secreted in such abundance before death.

Remarks.—Turbit mineral is a sub-sulphate of the binocide of mercury, and, like the other persalts of this metal, is a violent poison. It is, however, so rarely used, either in medicine or in the arts, that I am not aware of the report of any case of poisoning by it since the time of Wibner.

In the present instance I learnt that one drachm of the poison had been taken. The effects which followed were very similar to those which result from the action of corrosive sublimate. The poison did not appear to exert any influence over the sensorial functions, but it rather seemed to exhaust the organic acts, and, perhaps, to have given rise to a state of atonic pneumonia.

Among the post-mortem appearances, the most striking were, the leaden blue tint of the lips and gums; the ragged ulcerated condition of the latter; the swollen state of the salivary glands; the alimentary canal, too, from the mouth to the anus, was found to be redder than natural, and studded with livid petechial spots—a condition most manifest from the cæcum downwards. Then, again, it is worthy of remark that the intestines were contracted throughout, and nearly empty, and that the colon had acquired a slate or lead colour. The gorged and uncollapsed lungs, together with the distended condition of the right side of the heart, and the emptiness of the left, pointed to the fact that death had begun its work at the respiratory organs. This was further evidenced by the turgid condition of the whole venous system, and by the black uncoagulated state of the blood everywhere. In this case there were many points of resemblance to the effects produced by the preparations of lead, especially as regards the blue colour of the gums and the purplish hue of the large intestines; but there were also other points of marked distinction, as in the ulcerated state of the gums and the universally contracted condition of the intestines and bladder.

MR. AVERY exhibited a specimen of
Diseased Heart.

The preparation was taken from the body of a man, æt. 45, who died from softening of the brain, with considerable effusion of serum in the ventricles and sub-arachnoid cellular tissue. One of the kidneys was almost entirely filled with a substance very much resembling soft mortar, and both testes contained tuberculous matter. He had been a patient in the Charing-Cross Hospital three or four months, and was treated for his disease of the testes. During his stay, nothing parti-

cular happened to call attention to any disease about the heart, and consequently that organ was not examined. Some six weeks before his death, he suffered so much from a rheumatic attack of several of his joints, that he kept his bed for a few days. He recovered, however, quickly under the use of colchicum, and neither then nor subsequently did he complain of palpitations or difficulty of breathing, nor was there any irregularity of pulse. He was suddenly seized with paralysis of the right side, and his pulse was frequently observed, but no irregularity felt, until he began to sink, previous to his death. There had been several occasions which might have given cause for sudden excitement, such as the unexpected news of his wife's death from apoplexy whilst he was in the hospital, several operations on the scrotum, &c., none of which circumstances appeared to produce any extraordinary phenomena with regard to the heart's action. The aorta at its origin and upwards is very much dilated, and the coats otherwise diseased; and directly across the opening above the valves, there is stretched a firm adventitious cord, to which is attached three fibrinous deposits, each as large as a small bean, floating loosely in the vessel. That valve usually situated above, and attached to the septum ventriculorum, is almost entirely destroyed, and in its place is a considerable cavity, containing also portions of fibrinous deposit. This cavity is making its way through the septum into the right ventricle, and indeed seems to have perforated that division entirely, as there is a considerable portion of a similar deposit between two of the tricuspid valves, which appears to be continuous with that contained in the cavity itself. The amount of mischief here found in so important a part of the organs of circulation is truly surprising when we consider the absence of any very prominent signs during life.

MR. POLLOCK exhibited two specimens of
Fibrinous Deposits in the Spleen, accompanied with Diseased Heart.

The first was taken from a woman, who had been under the care of Dr. Wilson, in St. George's Hospital, about three months ago. The mitral valve was much diseased, with almost entire destruction of the tendinous cords, and considerable contraction of the mitral orifice; the spleen was a foot long, and interruptedly pervaded with large fibrinous deposits.

The second specimen was taken from a patient who had been under the care of Dr. Beuce Jones, for a rheumatic affection. The mitral and aortic valves were much diseased, and the spleen, which barely ex-

ceeded its normal dimensions, was pervaded with miliary deposits.

Mr. Pollock observed, that the cases were particularly interesting, as illustrative of the coincidence of fibrinous deposits in the spleen, with disease of the heart—a fact to which pathologists had lately had their attention directed by Rokitanaky. Mr. Pollock exhibited also a specimen of

Encephaloid disease of the right Ovary,

which had filled up the entire cavity of the pelvis, projecting into the abdomen. The patient was between thirty and forty, and from the circumstance of her being in an all but dying state on admission, it was difficult to obtain any details of a satisfactory character. The vagina and uterus were healthy.

Hospital and Infirmary Reports.

OPERATIONS UNDER THE NARCOTISM OF ETHER,

IN THE BUCKINGHAMSHIRE GENERAL HOSPITAL.

Reported by

T. ATCHISON, Esq. M.R.C.S.E., L.S.A., &c.
Assistant-Surgeon in the Honorable East India Company's Service, Bengal;
Resident Surgeon.

Compound comminuted fracture of the left leg; extensive erysipelas; amputation.

JAMES KEEN, *stat.* 51, a game-keeper, returning from his rounds on the evening of New Year's day in a state of intoxication, slipped down on a piece of ice and broke both bones of his left leg at its lower third: being unaware of the accident, from his very drunken state, he jumped up and attempted to walk twice or thrice on the broken shaft of the limb, and thus, as can be readily supposed, drove the splintered end of the tibia through the skin, complicating the fracture in a frightful manner, rupturing the vessels, and rendering the case compound and comminuted.

On his admission the lower limb was found gorged with blood, and on removing a small clot which plugged the external wound, a great quantity of blood gushed out, and continued to pour till a compress and bandage were tightly applied to the seat of injury. M'Intire's apparatus was adapted, and the limb kept drenched with cold evaporating lotions. Saline antimonials and purgatives were exhibited every four hours: the patient kept cool and on low diet.

On the second or third day the compresses were removed: the bleeding had ceased, and suppuration had commenced

pretty copiously, and involved a great part of the limb, on which a blush of erysipelas was discovered, extending over the knee joint and lower part of the thigh. The patient's pulse had now sunk alarmingly; a furred tongue, parched skin, and want of sleep, plainly indicated that mischief was going on; a quart of matter was let out, and the patient experienced temporary relief.

This being the state of things, Mr. James Ceely, on examining the wound, and finding the oblique state of the fracture, and its great separation from its lower fragment and its collateral textures, snipped off with Liston's bone forceps an inch and a half or two inches of the projecting bone, and finding reduction impracticable laid the limb flexed upon its side to await an improvement in the patient's health; when an operation would be deemed indispensable.

It should be mentioned that the patient had lived freely all his life, taking from half a gallon to a gallon of beer per diem; and at the time of his misfortune his health was in a wretched state.

On the sixth day all antiphlogistic measures were suspended; eggs, chops, beef-tea, and three pints of ale, were allowed him daily, and the man fattened upon it. The erysipelas, which had attacked the integuments and deeper structures of the thigh and lower limb to a grave extent, and which vented itself in numerous abscesses, disappeared. The sleep, with the help of occasional opiates, became natural. Quinine, and the Tinctura Ferri Sesquichloridi, improved the digestive organs, which were indulged with all the nourishment he could discreetly take, and on the 23d of February he consented to have his leg removed.

On the morning of the 23d, the patient having been conveyed to the operating table on one of Mr. Luke's admirable hammock stretchers, was immediately put under the influence of the ether vapour by Mr. Hooper's bookah apparatus. He inspired well, and in less than three minutes was in a state of collapse. The ring tourniquet, from the erysipelatous and gorged state of the limb, was applied a little below Scarpa's triangle, and the vessel being secured, amputation of the upper third of the leg was rapidly and very dexterously performed by Mr. James Ceely, in less than a minute and a half. Three arteries and two enlarged muscular branches were secured with ligature, and the stump dressed, in nine minutes, and it was not till the 14th minute from the commencement that the patient exhibited the least sign of life or feeling, except from the deep and tardy respirations on the removal of the mouth-piece.

On the operation being completed, and

the patient reviving, some desultory and drunken ejaculations followed, accompanied with all the reliab of a laugh, but no sound. In speaking he alluded to every thing else but his leg, and always with an air of pleasantry; neither could he be convinced till some time after that he had parted with his limb: and really it must have been gratifying, both to the surgeon and the numerous spectators, to hear his hearty benediction on the ability and skill of the operator, alike with the boon that this wonderful discovery has conferred upon mankind.

The above case, though the novelty of etherialization has somewhat subsided, and the injury itself is familiar enough to every practising surgeon, may not be without interest to some of our medical friends.

Those who could have seen the man, the utter wretchedness of his constitution, the state of the fracture, the speedy supervention of spreading erysipelas, and his intemperate habits, with a shrug of suspicion would have doomed him at once;—*sed aliter*, and we have to thank good fortune and ether for the change. Had this vapour been famous on New Year's day, in all probability the patient by this time would be rejoicing in his wooden leg; but delirium tremens, or still more formidable nervous complications, could not, with his constitution, wisely be hazarded.

With regard to the operation, which by the by to one in his senses must have been, from the acutely sensitive state of the morbid mass cut through, one of exquisite agony, one point may be insisted on, and may go to confirm the opinion and the practice of others; namely, that securing the total insensibility and stupor of the patient by careful and patient perseverance with the inhalation before the knife touches the skin, and keeping up sedulously the narcotism during the operation, is the surest way to guarantee the total oblivion of the sufferer with all the happy trains of unconsciousness and indifference, during one of the most agonising and tragic events that can befall a man.

In the present instance so complete was the success that half an hour afterwards the patient could not be brought to believe his limb was off, though he saw it before him; a chain in his ideas had been completely severed, and the hiatus was a blank, without thought, feeling, or memory. "Strange!" he declared, "for he was sure he had been dead:" and he seems half incredulous to this hour.

Since the operation the patient has gone on remarkably well, without a single bad symptom.

In addition to the above case, the effect of ether was equally conspicuous during

the removal of a fatty tumor from the shoulder of an old man.

Here the apparatus of Mr. Tracy was used: its effect is in some respects preferable, from the almost instantaneous collapse it produces on the system; the momentary annihilation of motion, sensation, and consciousness, while under its influence, and the as speedy restoration of the sensorial functions.

In 3½ minutes the whole process and dissection of the tumor was completed, and the man as if nothing had happened.

A child of eight years old was the third subject under experiment. The thumb nail, in an ulcerated onychia, was removed, and to the bleeding and acutely sensitive surface the fuming nitric acid was pretty generously applied. During the whole process a languid smile was upon the child's face, involuntary micturition liberally sprinkling the bystanders. This child did not feel the application of this highly corrosive acid on recovering.

Subsequently the second molar tooth of a young man was extracted; like the felicity of the preceding cases this last was equally successful, the only anomaly being that previous to operating the spasm of trismus was scarcely more obstinate in the closing of the jaw, as, after its extraction, the gaping of the same reminded the amused bystanders of dislocation; and this until the ethereal insensibility had subsided.

Whether the complete and unexceptionable success of these cases is the rule or its exception, assuredly this great discovery is not the least boon in, certainly one of the greatest blessings of, the nineteenth century.

Aylesbury, Feb. 27th, 1847.

Correspondence.

ON THE USE OF ETHER IN FACIAL NEURALGIA.

BY JOHN MORGAN, ESQ.

A GENTLEMAN, æt. 72, of a large frame and rather robust habit, had been the subject of tic douloureux for the last eighteen years. He is never quite free from it for any length of time, and does not escape a day without some attacks; but these are much worse in severity and frequency during any derangement of his bodily health, or if he has been subjected to any mental excitement.

From these causes combined, he was attacked about a fortnight ago with most violent pain in its usual situation, viz. in the skin and integuments of the left side of the

face,—that part of it, at least, which is supplied with sensation, by the infra-orbital branch of the 5th pair, and also, though in a minor degree in the forehead, and left side of the head. He is seized quite suddenly by these paroxysms; the muscles of the head and neck are thrown into most violent spasmodic action: the vessels get much distended with blood, and in every attempt to move the upper lip, for the purpose either of speaking or eating, a most excruciating paroxysm occurs.

The recurrence of this has been so frequent that he has hardly obtained any sleep at night for an hour at a time since the commencement of the attack.

The usual remedies have been resorted to, both in the way of medicine and external applications; such as belladonna, quinine, &c., but without any good result, excepting that the application of an aconitine ointment (gr. j. to 3j.) produced some temporary relief, although it was necessarily discontinued in consequence of its causing irritation and vesication of the skin. He is not able to take opiates from the very severe headache caused by them.

I had suggested that the ether might be of service, though I was unwilling to urge it upon him, as he suffers occasionally from giddiness, and other symptoms of congestion of the brain.

His countenance was now sunk and anxious, and he had become so completely exhausted by constant pain, and so worn out by sleepless nights, that though at first most averse to it himself, he expressed a wish to make the trial.

Feb. 28th. — He inhaled for about a minute; for half of this time the vapour of ether was mixed with atmospheric air, for the remaining 30 seconds he took it in its pure state.

From his being somewhat nervous regarding it, and from the pressure necessarily made upon his mouth and nostrils, a violent paroxysm of tic occurred, but the ether had by this time exerted considerable influence upon him, and his ideas were somewhat confused for a few minutes. After allowing him to remain quiet for a quarter of an hour, I gave him a more efficacious dose, nearly enough to produce insensibility, to cause which he inhaled the true vapour for 50 seconds. A slight paroxysm occurred after the removal of the mouth-piece, as shown by the convulsive twitching of the side of the face affected, and by the patient (now only partially sensible) applying his hand to the part. He recovered the effects in a few minutes, was quite tranquil, and then dozed for an hour, when he was able to join his family at dinner without much suffering.

In the evening I saw him, found him

better able to talk than he had been for days. He expressed himself relieved by the inhalation, saying that "his nervous system appeared soothed and in a more tranquil state."

March 1st.—Has passed a much better night, having had but few paroxysms of pain. There is no evidence of any ill effects from the ether; the pulse 70, about its usual strength and frequency; face not at all flushed, though he complains of a very slight feeling of weight across his forehead.

He was willing to take another inhalation, which he did for about a minute, when much the same amount of insensibility was produced as had yesterday been caused in a shorter time. After this he remained quite tranquil, and when I saw him again in the evening he said that the attacks had been less frequent, and certainly less severe during the day. To promote a good night he took another small dose.

2d.—Slept very well during the early part of the night, though he had a few paroxysms towards morning. Has had one or two rather sharp paroxysms during the day, but this he is never without. His friends consider that the pain does not occur more frequently than at ordinary times, and that the recent aggravation of his malady has been quite relieved by the ether.

Thus I think it may be inferred that the inhalation of ether produced a great amount of relief—indeed, was the means of restoring this patient to his usual state, which, though certainly one of suffering, is trifling in comparison to what he had endured during the last attack; and had it not been for his age, and his tendency to cerebral congestions,—which certainly are objections to this remedy,—a much more decided benefit might probably have been obtained. At all events, it is perhaps sufficient to justify us in adding this new agent to an already long list of remedies for these neuralgic affections.

5, Albion Place, Hyde Park,
March 5th, 1847.

TREATMENT OF SPINAL DISEASE.

SIR,—If you deem the following case of disease of the spine possessing sufficient interest for the readers of the *MEDICAL GAZETTE*, by inserting it you will much oblige,

Yours respectfully,

HENRY SMITH.

M. J., *ætat.* 35, the mother of five children, applied to me on Monday, Jan. 4th. She stated, that for some years past she had suffered pain at the lower part of the back, but had not until lately applied to any surgeon. Within the last twelve months, however, the pain had increased so much in

severity, accompanied with failing general health, that she placed herself under the care of a medical man. At this time she suffered extreme pain, numbness and weakness of the lower extremities, and her water came away without her knowledge. She was treated for spinal disease; the recumbent posture was kept for several weeks, and issues were made over the part. Slight relief only was produced by these measures. Subsequently she was seen by a surgeon of great eminence in this city, who apparently did not consider her complaint of much consequence, as he merely ordered her general remedies to rectify her health. She was seen by a third party shortly before she presented herself to me, but little benefit accrued, and her general health became much disordered. On making an examination of the spine, I found that there was a prominent projection of the spinous process of the third lumbar vertebra. She complained of exquisite pain on each side of and above that vertebra when percussion was used. The pain is so severe that it prevents her from sleeping. She has numbness of the legs, from the knees to the ankle; she has occasionally incontinence of urine. Her general appearance indicates a depressed state of health: the face is thin, pale, and anxious; she is unable to use exertion without severe distress; the pulse is frequent and feeble, and the appetite is bad. Thinking that this would be a good opportunity of trying the effects of mercury, and learning from her that she had not taken it previously, I determined to try it fairly and fully, at the same time not having very sanguine hopes of doing much good, as so many remedies had been tried. I therefore told her to keep as quiet as circumstances would admit, and prescribed the following:—Hyd. Chlor. gr. j.; P. Opii, gr. $\frac{1}{2}$ bis die; and ordered her to wear Empl. Ammoniaci cum Hydrargyro over the painful part.

Jan. 8th.—The calomel has affected the mouth rather severely; she is evidently suffering from it much; she is very weak, and her appetite is very bad; pain in the affected part is very severe.—Apply eight leeches to the part, and take one dose of the calomel every other night, and the following:—Syrup. Ferri. Iodid. 3ss. bis die.

12th.—Great relief to pain was experienced from the leeches. Her system is fully under the influence of the mercury, but not severely; the pain is much diminished; the numbness of the legs is somewhat less, and her water does not pass away from her so much; her appetite is better, and she looks improved in appearance.—Continue the calomel every other night, and the draught. To reapply the plaster.

20th.—Is much better. Complains only

of slight pain in the back, and that only when she exerts herself. The numbness of her legs has gradually diminished, and it only remains about the ankles; no incontinence of urine; mouth still sore; general health considerably improved.—Continue draught, and take the following pill instead of the former one:—Pil. Hyd. Chlor. Co. gr. v. alternis noctibus.

31st.—I was much pleased with her altered appearance; she has only felt pain occasionally; there is but slight numbness left about the ankles; mouth still slightly affected with mercury.—R Quin. Sulph. gr. ij.; Hyd. Chlor. gr. ss.; Extr. Hyosy. gr. iv. omni nocte; Ferri Citratis, gr. v. bis die.

Feb. 13th.—This woman called upon me to-day. She makes no complaint; she has no pain, and the numbness has entirely left her; her general health is much improved: she says it is better than it has been for a long time past. She has been taking her pill occasionally—just sufficient to keep her mouth sore. I dismissed her, thanking me greatly for the relief I had procured her. I advised her to continue the citrate of iron a short time longer.

The fortunate issue of this case shews that much may be done in disease of the spine, although various remedies may have been previously tried. Some of your readers may be inclined to deny that there was real disease of the spine in this case, and may place it amongst the class of cases to which the vague and incomprehensible term of *spinal tenderness* is applied; but I think that the fact of the existence of protrusion of the spinous process, the constant pain, and, above all, the partial paralysis of the bladder and lower extremities, was sufficient to render my diagnosis correct. I attribute the rapid benefit which was produced chiefly to the mercury, which is known to be so useful in articular inflammation. Sir Benjamin Brodie has found it of great use in such disease; and Mr. Solly, in some admirable clinical lectures, published in one of the late volumes of the *MEDICAL GAZETTE*, mentions one or two cases of disease of the spine in which it produced a permanent cure. It was the recollection of these cases that induced me to try this remedy in this particular instance; and I must say, my most sanguine expectations were more than verified. This woman has been restored, by the use of this powerful therapeutic agent, from a state of suffering, and from the expectation of still greater suffering, to her wonted health. I have been induced to publish the case, and to make these remarks, with the hope that it may be the means of the same method of treatment being adopted,

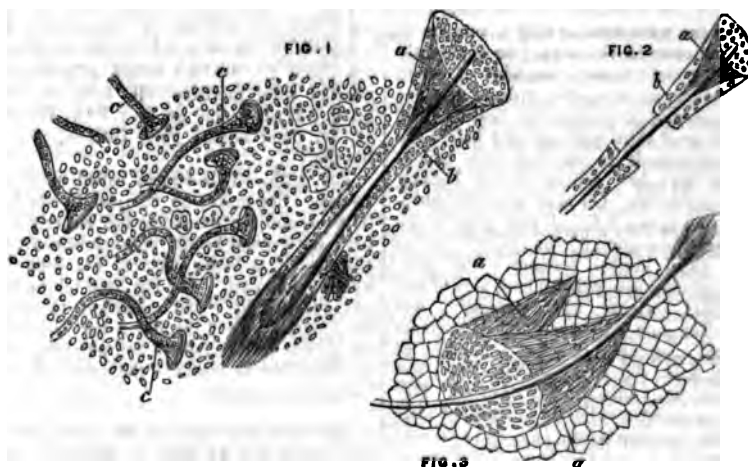
should such a case come under the care of any of your readers.

106, Great Russell Street, Bloomsbury,
Feb. 1847.

ON THE STRUCTURE OF THE SKIN CONNECTED WITH THE HAIR IN A STILL-BORN CHILD.

SIR,—The accompanying drawing * is

taken from a preparation of the skin from the arm of a still-born child: it is intended to illustrate a structure connected with the hair which, as far as I am aware, has never been hitherto described. What I allude to is a funnel-shaped sheath, composed of delicate oblong cells, arranged in a convergent direction towards the hair, and apparently terminating in a point, from one-third to



one-half the length of the latter, between the surface of the skin and the bulb. It is quite distinct from the tubular sheath prolonged from the epidermis by which it is surrounded, and through which it can be seen; the latter also accompanies the hair its entire length after it has entered the skin, and is formed of cells, smaller than the others, and more or less circular. These, after maceration, may be completely removed, leaving the inner partial sheath with the contained hair, and the external layer of the epidermis cells, alone remaining.

In the Figures, *a* indicates the structure above described; Fig. 3 exhibits it denuded after maceration. Two are there seen together, with the hair passing through one of them, which is the most frequent arrangement; *b* indicates the involution of the epidermis, usually described as the hair, sheath, or follicle. In Fig. 2 this has been broken across. The other parts it is unnecessary to point out.

I have included in the drawing some of the perspiratory tubes from the same preparation, as they shew very clearly the layer of epithelium cells by which they are lined (Fig. 1, *c*). They are seen in the original to be more completely in contact than their distinct representation on so small a scale

would allow. In the last number of Mr. Hassall's work, to the general correctness of which I can testify, these tubes are represented; but they there appear of a simple membranous character. Being from so young a subject, and the structures never having been subjected to those influences which soon modify their character after birth, they are seen not only probably more distinctly, but in their original state of development.—I am, sir,

Your obedient servant,

GEORGE PADLEY.

Liverpool Infirmary,
Feb. 1847.

Medical Intelligence.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY—ELECTION OF OFFICERS FOR THE YEAR 1847.

At the Anniversary Meeting of the Royal Medical and Chirurgical Society, on the 1st inst., the following gentlemen were elected officers and members of council for 1847-8:—President, James Moncrieff Arnott, F.R.S.; Vice-Presidents, Robert Ferguson, M.D., Jonathan Pereira, M.D. F.R.S., Robert Liston, F.R.S., Richard Partridge, F.R.S.; Treasurers, George Barrows, M.D., Benjamin Phillips, F.R.S.; Secretaries,

* Reduced from a diagram very accurately made by Mr. Eginton, of this town, from the preparation, nearly twelve months ago.

George Carabata, M.D., Frederick Le Gros Clark; Librarians, William Baly, M.D., Richard Quain, F.R.S.; other members of council, George Budd, M.D. F.R.S., W. F. Chambers, K.C.H. M.D. F.R.S., P. N. Kingston, M.D., Thomas Mayo, M.D. F.R.S., James Arthur Wilson, M.D., Henry Ancell, Richard Blagden, George Busk, Charles Hawkins, and Benjamin Travers, F.R.S.

RULES RESPECTING THE ELECTION AND
ADMISSION OF FELLOWS OF THE
ROYAL SOCIETY.

THE changes which have been introduced respecting the mode of election and admission of Fellows into the Royal Society will be understood from the following extracts:—

V. At the first ordinary meeting of the Society in March, 1848, the names of all candidates duly proposed after the first day of March, 1847, and in subsequent years at the first ordinary meeting in March, the names of all candidates proposed subsequently to the first meeting in March of the preceding year, shall be announced by the Secretary from a list arranged in alphabetical order, without reference to the dates of the certificates of the candidates; and these certificates shall be suspended in the Meeting-Room until the day of election.

VI. In the first week in April, a list shall be printed, containing the names of all the candidates so announced at the first meeting in March, arranged in alphabetical order, without reference to the dates of the certificates, together with the names of the Fellows by whom each candidate is proposed and recommended; and a copy of such list shall immediately thereafter be sent to every Ordinary Fellow.

VII. The Council shall select by ballot from such printed list of candidates a number not exceeding fifteen, to be recommended to the Society for election; but no such selection by the Council shall be valid unless eleven Members at least be present and vote, a majority deciding, or, in the event of equality, the President or his deputy having a casting vote.

VIII. At the first ordinary meeting of the Society in May, the President or his deputy shall read from the Chair the names of the candidates whom the Council have selected as most eligible, arranged in alphabetical order; and after such meeting, a circular letter shall be forthwith sent to every Fellow, naming the day and hour of election, and inclosing a printed list of the selected candidates, with space for such alterations as any Fellow may determine to make in pursuance of Statute X.

IX. The election of Ordinary Fellows, not included in the privileged classes referred to in Statute IV. of this chapter,

shall take place on the first Thursday of June, unless the Council shall alter the day of election to any other day in the month of June, in which case due notice of such alteration shall be given to every Ordinary Fellow.

THE WIDOW OF HAHNEMANN FINED FOR
THE ILLEGAL PRACTICE OF MEDICINE.

MADAME HAHNEMANN was lately charged before the tribunal of Correctional Police with having assumed the title of Doctor of Medicine, and with having practised medicine and pharmacy contrary to law. It was proved that the accused had employed a regular physician in giving advice to her patients, and a druggist who was in the habit of making up her prescriptions; but the evidence showed that she had also acted as a physician. She claimed a right to practise on the ground of having a foreign diploma. After hearing her counsel, M. Chaix d'Est Ange, the Court pronounced sentence against the accused, and condemned her to pay a fine of one hundred francs for having assumed the title of Doctor of Medicine contrary to law.—*Gaz. Méd. Mars 6.*

RELAXATION OF THE QUARANTINE LAWS.

ORDERS have been issued by the Lords of Her Majesty's Council to the proper officers of Customs, to release immediately from quarantine all vessels arriving from Turkey with clean bills of health, and having non-enumerated articles only on board, provided the crew and all persons on board have been free from any suspicion of infectious disease during the voyage. In pursuance of inquiry on the part of the officers of the revenue at Falmouth, requesting to be informed whether the order of the Lords of the Council has reference, 1. To vessels arriving from the Black Sea; 2. Whether vessels from all places under Turkish dominion, as Alexandria, are within the scope of such "dominions;" and, 3. What places vessels must arrive from, under the circumstances, to render necessary the quarantine restraint,—a further communication has been received by the Commissioners of Customs, from Mr. Greville, stating that—1. Vessels from the Black Sea, with cargoes of enumerated or non-enumerated goods, are to be released immediately from quarantine, even if they have touched at Constantinople, or any other port in Turkey from which clean bills of health are issued; 2. That vessels from Egypt and Syria are not included in the order alluded to: all vessels from Egypt and Syria to continue under the present regulations, viz. 15 days with cargoes of enumerated goods (to be removed into a Lazaret), and five days for vessels having cargoes of non-enumerated goods only, and having clean bills of health; and, in reply to

the third query, all vessels from ports in Turkey and islands under the dominion of Turkey are included in the order; and all vessels from ports in Egypt and Syria must, under present circumstances, be placed under the restraint of quarantine.

EMPLOYMENT OF ARSENITE OF COPPER BY PORK-BUTCHERS.

ABOUT a month since a well-known Parisian lawyer gave a breakfast to his friends at the christening of his child. Among the dishes on the table was a boar's head, ornamented in a most artistic fashion with small lumps of red and green fat. One of the guests, who was acquainted with chemistry, was particularly struck with the rich green colour of the ornamental fat, and reserved a portion of it for analysis. He found, on digesting it in anhydrous ether, that a heavy green powder subsided, which, on further examination, turned out to be Scheele's green. Inquiry was made, and it was ascertained that the poison had been procured by the pork-butcher's boy at a neighbouring colour-shop for the purpose of decorating the boar's head, and rendering it more attractive to the guests!—*Journal de Chimie*, Janvier, 1847.

CHLORINE OF SODA AS A TEST FOR DETECTING GUAIAECUM-RESIN IN JALAP.

CHLORINE has been long known to possess the property of rendering guaiacum-resin blue. According to M. Smedt, chloride of soda or lime, which has a similar action on guaiacum, may be usefully employed to detect the smallest traces of this substance when it has been used for the purpose of adulterating jalap. The resin of jalap mixed with only one-fifteenth part of its weight of guaiacum, and dissolved in alcohol, gives, with one drop of the hypochlorite of soda, a green streak, which subsides as a green deposit to the bottom of the vessel. The reagent is so delicate that 1-320th part of guaiacum mixed with jalap may be thus detected. In repeating these experiments, M. Boudet found that the test was equally efficacious in detecting the adulteration of scammony with guaiacum.—*Journal de Chimie*, Fevrier, 1847.

BRONZING OF CONFECTIONERY.

ACCORDING to the police regulations of Paris, confectioners are allowed to use only gold and silver as metallic ornaments to confectionery. Copper, bronze, and all the alloys of copper and zinc, are prohibited. Some confectioners have, however, employed sham gold, an alloy formed of zinc and copper. A large quantity of confectionary thus ornamented has been recently seized at Bordeaux, and an action has been commenced against the confectioner who supplied the articles. He produced some of

the powder, which he said he procured of a druggist who sold it to him as a mixture of talc and oxide of gold. The application of nitric acid and ammonia, however, soon proved that "the gold" was a copper alloy.—*Ibid*.

. Nitric acid is perhaps the best test, as some of these alloys very closely resemble red gold in colour. The copper alloy is immediately dissolved by the acid, forming a green-coloured solution: gold remains unaffected. These copper alloys are much used in England for ornamenting gingerbread; and Scheele's green and chromate of lead are also employed for the purpose of colouring sugar-plums. *De minimis non curat lex*. The English law thinks any interference with this mode of selling poison an invasion of the liberty of the subject!

THE ASIATIC CHOLERA AT DAMASCUS.

By the latest intelligence from Damascus, received through Beyrout and Alexandria, we learn that the Asiatic cholera has appeared in the caravan of pilgrims proceeding to that city. More than 30,000 had perished; and about 500 of the inhabitants of Damascus had already fallen victims to the pestilence.—*Gaz. Mid.* 6 Mars.

ST. GEORGE'S HOSPITAL.

ON Thursday, Feb. 25, there were three more operations at St. George's Hospital in addition to those reported in our last, in which the vapour of ether was administered by Dr. Snow with the effect of completely preventing pain. The first was the removal of a scirrhus breast in a middle-aged woman, and was performed by Mr. Cutler, who commenced the operation when the patient had been inhaling four minutes. She was making a low moaning noise whilst inhaling before the operation began, and continued to do so during part of the operation, with which, however, it seemed to have no connection, not being increased when the incision began. The inhalation having been discontinued, the patient recovered her consciousness during the tying of the arteries, and became very talkative, remarking that she had felt no pain, and not being aware, for she was not allowed to see the wound, that anything was being done which ought to give pain. The next operation, also performed by Mr. Cutler, was the amputation of the thigh of a little boy, by the circular method, for scrofulous disease of the knee-joint. In this patient the respiration was rather stertorous on two occasions when the insensibility was greatest, but the snoring quickly subsided on a little air being admitted by the nostrils. The other operation was performed by Mr. H. James Johnson. It was an amputation of the thigh also, and the flap operation was

performed on account of the oedematous state of the thigh. The patient, a little girl, was extremely feeble and emaciated by disease affecting the knee-joint, and she was put under the influence of ether to enable the surgeon to get the limb, which was forcibly retracted and flexed, in an oblique direction against the abdomen, into a suitable position; this was easily done when insensibility was produced. On this account the patient had to be kept insensible for about ten minutes, although the amputation itself was performed in an extremely short space of time. In the first patient the pupil was not observed to dilate; in the other two it dilated first and then became contracted, and turned under the upper eyelid as sensibility became established. The pulse, in the first case, became frequent and small under the ether, in the second the pulse was not much influenced, and in the third, where the pulse was frequent and feeble before the inhalation began, it increased during the process to 180.

DEATH FROM NEGLECT DURING LABOUR.

ON Wednesday an inquest was held at Liverpool touching the death of Caroline Grey, who died of puerperal fever. The case excited a good deal of interest, from a rumour which prevailed that the deceased had died through neglect. The principal witness was Myra Tyrrell, a poor widow woman, who, as an act of charity, attended the deceased. She deposed, that on Monday, the 22d of last month, she found the deceased labouring under the pains of childbirth. In a short time after, Mr. Foulkes, surgeon, who had been sent for, attended her, and, after examining her, said, "The time of this woman is coming on, but I cannot attend her unless I am first paid a guinea." In three minutes afterwards he left her, saying that not more than three hours would elapse before the child would be born. The deceased remained in this state during the night, in the care of a nurse. The following morning, about 5 o'clock, witness again visited her, when the poor woman entreated her to get a surgeon without delay. At the request of the deceased, she examined her, and found a wrong presentation. She then went to Mr. Vaughan, parish surgeon, who, on being told the case, complained of having a cold, and said he could not attend, but recommended the messenger to Mr. Scholfield. This gentleman also complained of being unwell, and said he was unable to visit the woman. Mrs. Tyrrell again called upon Mr. Vaughan, and told him that Mr. Scholfield refused to go. From thence she went to several other surgeons, all of whom complained of without expressing their regret that more prompt aid was not rendered by the medical

being unwell, and she returned home in about two hours' time without aid. Mr. Steele, surgeon, was ultimately brought to her, and said, upon examination, that she should have been delivered several hours before. Before proceeding further, he said his charge was a guinea, and that he would leave her unless the money were paid, or some security given. The husband, therefore, promised to pay him ten shillings by 2 o'clock the same day. Mr. Steele, who in his evidence stated it was not his intention to leave without first seeing the deceased in the care of a medical man, returned into the house and operated upon her; but, not succeeding to deliver her in an hour's time, called in the assistance of Mr. Stevenson, and the unfortunate woman gave birth to a still-born child, with one leg off, and its body much mangled. After delivery, the deceased appeared to suffer little from pain, and expressed satisfaction at what had been done, and the relief which had been given her. On Wednesday she grew worse, and became delirious; and, although Mr. Steele called at the house and pronounced her in a dangerous state, she received no medical aid till Saturday, when she was visited by the parish surgeon, Mr. Vaughan. She continued to have intermittent attacks of delirium till Monday night, when she died, nature being completely exhausted. Mr. Foulkes said, in explanation of his conduct, that he told the inmates of the house that there was an institution in town where she might obtain medical relief gratis—He referred to the Ladies' Charity. This was not understood by the parties present, from their recent residence in the town. Mr. Stevenson said he attended Mrs. Grey on Tuesday, at the request of Mr. Steele. On examination, he found there was a presentation of both arms: it was an abortion, being only six months gone. The child was small, and the contraction of the uterus was the cause of the difficulty in removing it. Had the deceased been properly attended to, and assistance given at the proper time, there would have been no difficulty in the delivery. The Coroner, at the close of the examination, said, he thought it his duty, from the excitement which had been caused by the death of the deceased, to summon a special jury, and to call every person who was likely to throw any light upon the alleged neglect of the medical men who attended her. This he considered his duty both to the public of Birkenhead and the medical men. The witnesses and others present were ordered to leave the room, and the jury consulted upwards of three-quarters of an hour, when they returned the following verdict:—"That the deceased died from the effects of puerperal fever, consequent on child-birth; and the jury cannot separate

men in attendance. At the same time, they beg to thank Mr. Stevenson for his prompt attention to the deceased when called upon."
—*Liverpool Mercury*.

WESTMINSTER GENERAL DISPENSARY.

Dr. WEGG, of Maddox Street, has been appointed physician, and Dr. S. W. J. Meriman has been appointed consulting physician, to the Westminster General Dispensary.

THE CONVICTS AT WOOLWICH.

AMONG the Parliamentary papers recently printed, was one obtained by Mr. T. Duncombe, in reference to the hulks at Woolwich. It appears that, since the 1st of January, 1844, 122 prisoners have died at the hulks, and the verdicts returned shew that many died of consumption. In the period embraced by the return, it seems that 59 corpses have been removed for anatomical examination, on each of which a sum of £2. 10s. was paid to Mr. Dix, undertaker. The corporal punishments from the 1st of January, 1843, to the 12th February last, numbered 44. The punishment awarded in some cases was by stripes, and in a few instances by lashes.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer	30.06
Thermometer	35.8
Self-registering do. max. 56.2 min. 15.5	
" in the Thames water — 44° —	37.8

a From 12 observations daily. b Sun.

RAIN, in inches, 0.0: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was nearly 4° below the mean of the month.

BIRTHS & DEATHS IN THE METROPOLIS During the week ending Saturday, Feb. 27.

BIRTHS.		DEATHS.		Av. of 5 Wint.	
Males....	750	Males....	520	Males....	542
Females..	719	Females..	524	Females..	526
	1478		1044		1068

DEATHS IN DIFFERENT DISTRICTS.

(34 in number;—*Registrars' Districts*, 120.
Population, in 1841, 1,915,104.)

West—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 801,326)	132
North—St. Marylebone; St. Pancras; Islington; Hackney	210
Central—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London	191
East—Shoreditch; Bethnal Green; White-chapel; St. George in the East; Stepney; Poplar	242
South—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich	268
Total	1044

CAUSES OF DEATH.

CAUSES OF DEATH.	1844	Winter 1843
ALL CAUSES	1044	1068
SPECIFIED CAUSES	1044	
1. Zymotic (or Epidemic, Endemic, Contagious) Diseases ..	152	88
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	96	112
3. Brain, Spinal Marrow, Nerves, and Senses	172	170
4. Lungs and other Organs of Respiration	384	354
5. Heart and Bloodvessels	38	37
6. Stomach, Liver, and other Organs of Digestion	69	70
7. Diseases of the Kidneys, &c. ...	12	8
8. Childbirth, Diseases of the Uterus, &c.	12	12
9. Rheumatism, Diseases of the Bones, Joints, &c.	14	7
10. Skin, Cellular Tissue, &c.	4	3
11. Old Age	62	51
12. Violence, Privation, Cold, and Intemperance	23	30

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	11	Convulsion	50
Measles	4	Bronchitis	112
Scarlatina	13	Pneumonia	63
Hooping-cough ..	48	Phthisis	119
Typhus	41	Dia. of Lungs, &c. ..	26
Dropsy	7	Teething	11
Sudden deaths ..	15	Dia. Stomach, &c. ..	5
		Dia. of Liver, &c. ..	11
Hydrocephalus ..	34	Childbirth	11
Apoplexy	26	Dia. of Uterus, &c. ..	6
Paralysis	27		

REMARKS.—For the first time, for a long period, the total number of deaths was below the weekly average, the difference being 28. This decrease appears to be chiefly due to the subsidence of the mortality from pulmonary diseases, the deaths from these diseases being only 3 above the mean. Among zymotic diseases, Hooping Cough appears to be on the increase.

NOTICES TO CORRESPONDENTS.

Can Mr. T. Howitt favour us with an account of the post-mortem appearances in his case of sudden death? It appears probable that the case was one of true angina pectoris; but death may, not improbably, have depended either upon rupture of the heart, or the bursting of a thoracic aneurism, circumstances which would render the case by no means a rare one.

M.—At the best metropolitan schools, from eighty-five to one hundred pounds.

We regret that want of space has compelled us to postpone to the following number the communications of Dr. T. Mayo, Dr. Snow, Mr. Stanley, Dr. Wright, Dr. Simpson, Mr. Hunter, and Proceedings of the South London Society. The 2nd part of Dr. Snow's paper has reached us. Dr. Davies's letter has been received, and is under consideration.

We are obliged to Mr. Barrow for his paper.

We fear that it will be quite out of our power to insert, in the body of the journal, the long document, "An Appeal to the Medical Profession on the Medical Annuity Fund." An answer will be given next week.

Mr. John Goodman's communication has been received, and will have early insertion.

RECEIVED.—Dr. Buchanan.—Dr. J. Bennett.—Dr. Mackenzie.—Mr. Foulds.—Mr. Atchison.

ERRATA.—In our list of Books, at p. 440, of our last number, for "Facts on Sanitary Reform, by Dr. J. C. Redford," read "Dr. J. C. Hall, of East Retford."—In the leading article, page 417, col. 2, the parenthesis should end at the word "medicines," seventh line from bottom.

Lectures.

GULSTONIAN LECTURES,

Delivered at the College of Physicians,
February, 1847,

BY WILLIAM BALY, M.D.

Physician to the Millbank Prison, and Lecturer
on Forensic Medicine at St. Bartholomew's
Hospital.

LECTURE II.

Character of the intestinal lesion in the dysentery of Europe, and in tropical dysentery—Have two diseases been confounded under the one term "Dysentery"?—Morbid appearances in other parts of the body than the large intestines.—Inconstancy of hepatic abscess as a complication of dysentery—Malaria does not prevent the development of tubercular disease, and the existence of phthisis does not prevent the attacks of dysentery—Typhus or typhoid fever is often combined with dysentery—Symptoms of dysentery—Accuracy of Sydenham's description—Complete absence of feverishness in some cases—Sthenic character of the symptomatic fever in the two less severe degrees of the disease—Symptoms indicating the part of the intestines affected—Symptoms indicating the degree of severity of the inflammation—Sources of the bloody, mucous, and puriform discharges—The third and most severe degree of the disease attended by symptoms which indicate that the blood has undergone a morbid change—Nervous affections associated with dysentery at the Millbank Penitentiary—Their anomalous character—They have not been observed elsewhere.

IN my former lecture I described the lesions which have presented themselves in the large intestines of persons who have died in the Millbank prison while suffering from dysentery. It will not be necessary that I should occupy much time in showing that the more prominent of those morbid appearances have been generally observed in fatal cases of the dysentery of Europe.

The best accounts of the morbid anatomy of the disease, from observations made in these islands, are those of Dr. Cheyne* and Dr. Abercrombie.† Both of these physicians describe the redness and roughness of the inflamed mucous membrane, the small round ulcers, the sphacelated state of the

rugæ, the more extensive sloughs, and the ulcers of various forms which must have been left by the separation of such sloughs; and Dr. Abercrombie, the truthfulness of whose descriptions gives to his medical works a classical value, mentions also small firm tubercles, which were evidently enlarged solitary glands. Sir John Pringle* and M. Broussais† found the same lesions in the fatal cases of camp dysentery observed by them in many campaigns on the continent of Europe. And I may mention that M. Broussais, in his remarkable work on chronic inflammations, asserts his belief that the ulcers of the large intestine have their origin in the solitary glands.‡ Again, the dysentery associated with the fevers from which the British troops suffered so severely in the disastrous Walcheren expedition, has been well described by Dr Davis.§ And from his account it is obvious that this Walcheren dysentery was, in its anatomical characters, identical with the disease from time to time observed at Millbank.

The same result is afforded by an examination of the works of more recent French and German authors who have observed and described the disease.

We may therefore at once proceed to the inquiry, whether any peculiar characters of the changes in the large intestine essentially distinguish the dysentery of tropical countries from the disease known by the same name in this climate? Dr. Abercrombie, admitting the identity of the two diseases as to their nature, concluded that the dysentery of British systematic writers and tropical dysentery differed in the extent of intestine affected; the disease being confined to the rectum or the lower part of the colon in the former, and extending in the latter through the whole course of the colon, and often affecting also a considerable part of the small intestines. But though the cases in which the whole length of the large intestines is affected are comparatively rare in this country and frequent in India, yet cases do occur in this climate where the extent of the disease is as great as in the dysentery of the tropics. From the extent of the disease, therefore, no constant distinctive character can be drawn. The form and nature of the anatomical changes in the large intestine, also, afford no ground for distinction; they are in both cases precisely the same. In proof of this, reference need only be made to the works of Mr. Annesley and Dr.

* Diseases of the Army, fifth edition. London, 1785, p. 237-248.

† Histoire des Phlegmasies, fourth edition. Paris, 1826, t. ii. p. 517-542.

‡ Ibid. t. iii. p. 76 et seq.

§ View of the Fever of Walcheren, by J. B. Davis. M.D. London, 1810, p. 155-182 and p. 191-194.

* Dublin Hospital Reports, vol. iii. p. 1-75.
† Pathological and Practical Researches on the Stomach and other Viscera of the Abdomen, 3rd edition. London, 1837, p. 204-60.

Parkes. The former writer describes the intense redness of the mucous membrane which precedes the further changes, the abrasions of its surface, the small and clustered ulcers, the large distinct ones, the sphacelated state of the membrane characterized by a green or greenish brown colour, and disorganized texture, and lastly the state in which the sloughs are partly detached. All these morbid changes, as I have shown, are met with in fatal cases of European dysentery. Dr. Parkes enters into a minute description of the different forms of ulcers, all of which, he believes, may be traced to their origin in inflammation of the solitary glands. He also gives instances of the diffuse gangrenous inflammation of the mucous membrane of the colon, although, as I have before mentioned, he does not regard it as a form of lesion belonging to true dysentery.* It cannot be doubted, therefore, that in their nature and form, as well as their seat, the principal anatomical lesions are the same in the dysentery of India and in that observed in different parts of Europe.

This point being settled, another question must now be considered. How has it arisen that modern writers have in many instances given such contradictory accounts of the morbid anatomy of the disease,—that some have denied the frequent occurrence of ulceration, and the special participation of the small glands in the diseased process, whilst others have characterised the disease as being in its origin *always* seated in those glands;—that one writer regards dysentery as, essentially, erythematous inflammation terminating quickly in gangrene, while another regards this diffuse gangrenous form as a comparatively rare variety of the disease?

With reference to most of the writers here alluded to, and amongst them must be included M. Chomel and M. Cruveilhier, the only conclusion we can arrive at is that their opportunities of observing the disease have been too limited to enable them to take a comprehensive view of its morbid anatomy,—that they have observed only epidemics in which one form of lesion greatly predominated. We may ascribe the incomplete description of the dysenteric process, given by M. Rokitanaky, to the circumstance that although he has enjoyed ample facilities for observing the morbid changes in the body after death, he has had but few opportunities for tracing the connection between these changes and the symptoms of the disease and its causes. But neither of these conclusions can be adopted in the case of Dr. Parkes. He has evidently seen all the

principal forms of the structural lesions, has watched the symptoms attending them, and has known the circumstances under which the disease in the respective cases arose. He seems, however, to exclude the *diffuse erythematous and gangrenous inflammation* of the large intestines from the category of the structural changes belonging to *ordinary dysentery*, and he thereby suggests, though he does not formally propose the question, whether the anatomical changes described by different writers as characteristic of dysentery, do not include the lesions proper to two distinct diseases,—one characterized by diffuse inflammation, quickly running into gangrene, and the other by inflammation of the solitary glands leading to the formation of numerous distinct ulcers.

In order to determine this question, we must consider not merely the two principal forms of local morbid change in the colon, just mentioned, in their relation to each other, but also the relative frequency with which disease in other parts of the body is associated with the one and the other of these forms of altered structure respectively; the symptoms, local and general, that attend each during life, and the circumstances under which each occurs, or the causes by which it is produced. The essential difference or the identity of the two forms of disease can be concluded only after an examination of all these points. At present, however, we can merely inquire whether the local lesions, considered by themselves, compel us to the conclusion that these two varieties belong to distinct diseases. And this question, it appears to me, must be answered in the negative. There is every grade of transition from the one form of lesion to the other. In cases where the small round ulcers produced by the destruction of the solitary glands predominate, there are frequently, and in severe cases perhaps most frequently, seen at the same time long strips of mucous membrane in the state of sphacelus, or large ulcers formed by the casting off of such sphacelated portions of membrane. And, on the other hand, when the extended gangrene is the predominant form of the disease, the portions of mucous membrane not totally disorganized, frequently present the solitary glands enlarged or sloughing, or ulcers resulting from their total destruction. Several of the preparations now on the table illustrate this fact. It cannot be denied, however, that often where the erythematous inflammation and gangrene affect continuously nearly the whole length of the large intestine, no sign can be perceived of especial affection of the solitary glands. Let us see whether this is capable of explanation without supposing the disease to be, in such cases, essentially different in its nature. It

* See, for example, the dissection at page 63 of Dr. Parkes's work, "Researches on the Dysentery of India," and his observations on the appearances in the colon at page 64.

will be remembered, that even in the mildest cases of dysentery, and where the special affection of the solitary glands was most evident, the inflammation had still extended over the inner surface of the intestine to a considerable distance around the glands: there were redness, desquamation of the epithelium, with effusion of fibrine, and sometimes loss of vitality of a superficial layer of the mucous membrane subjacent to the epithelium. In these cases we may suppose that the blood was but little altered from the healthy condition, and that the inflammation, therefore, which was diffused around the foci of the disease did not take a destructive form. But there are conditions of the circulating fluid where inflammation, set up in one point of a tissue, not only spreads with great rapidity through the capillary net-work, but also induces at once, in all the parts it reaches, complete stagnation of the circulation and gangrene of the tissue. And if in a case of dysentery such a state of the blood existed previously, or was produced at the same time that inflammation attacked the solitary glands of the large intestine, the consequence would be that no small points of disease indicating the situation of the affected glands would be seen,—all these would be lost in the extensive and inflammatory congestion and mortification. This hypothesis describes correctly the kind of inflammation which exists in the cases of dysentery here referred to, but it may appear not quite satisfactorily to account for the total absence of all appearance of enlarged and sloughing solitary glands on those parts of the mucous membrane of the colon which are only in the state of inflammatory congestion,—such as are seen in some parts of this drawing. To explain this, however, I would suggest that possibly only the inflammation set up by the primary cause of the disease has the tendency to produce especial tumefaction and mortification of the glands, and that inflammation secondarily excited does not affect them more than other parts of the mucous membrane. Assuming this, we may explain the cases in question by saying that in these instances all the glands attacked by the primary cause of the disease are involved in the gangrenous parts, while the inflammation in the portions which are not disorganized has arisen secondarily by sympathy with the neighbouring intensely affected portions, and not from the direct operation of the original cause of the disease;—and that on this account the glands are not apparently affected.

It should be borne in mind, too, that the solitary glands of the large intestine are not at all times in the same state of development; and that when dysentery attacks them in their lowest condition as to size and activity of function, they will in all proba-

bility show themselves less conspicuously in the inflamed mucous membrane. This circumstance may account for the absence, in some cases of dysentery, of the distinctive character usually given by the especial activity of the diseased process in these glands.

It is then possible, I think, to account for all the forms of local lesions found in dysentery without adopting the view that two diseases of essentially different nature are engaged in producing these lesions. But still, the difference of anatomical characters in different cases is sufficiently great to accord with such a view, if the affections of other parts complicating the disease in the large intestine, if the symptoms and the influences causing the disease in the respective cases, should present well marked differences.

Keeping this question in view, then, I proceed to notice the *lesions found in other organs than the large intestines*, when cases of dysentery have terminated fatally.

In 5 out of 28 dissections of cases of dysentery not complicated with typhus, I have found redness and roughening of the mucous membrane of the ileum extending from the ileocolic valve to a greater or less distance up the intestine. The same appearances are noticed in about the same proportion of cases by writers on dysentery who have observed the disease in all climates. This redness and roughening of the epithelial surface of the mucous membrane of the ileum seems not to be a part of the primary disease, but to be due to the extension of the inflammation from the colon to the ileum by sympathy of surface. In a small proportion of cases the solitary glands of the ileum appeared enlarged, but not to such an extent as to constitute a feature of any importance.

The inflammation of the lower portion of the ileum, as a complication of dysentery, has been more frequent in the diffuse gangrenous form of the disease than in the form where the effects of inflammation are more especially evident in the solitary glands; but this circumstance affords no ground for regarding the diffuse gangrene of the colic mucous and submucous coats as a distinct disease, for the greater intensity of the inflammation in this form of dysentery, and its greater disposition to spread, sufficiently explain the more frequent affection of the ileum in such cases.

The absorbent glands connected with the inflamed colon rarely present any strongly marked signs of disease. This is remarkable, since the mesenteric glands are so constantly affected in typhoid fever, although the evidences of inflammatory action are often much less extensive in that disease than they are in the colon in dysentery.

The other organs which have been the seat of inflammatory disease in cases of dy-

sentry are the lungs, the pleura, and the peritoneum. The lungs are the only organs besides the ileum inflammation of which has frequently complicated cases of dysentery. In several cases the dysentery and the pneumonia have commenced at the same time, and have run their course together; and in one case inflammation, terminating in gangrene of the lung, came on in the course of a dysenteric attack. In the vast majority of cases, however, the dysentery has run its course without being complicated with any pulmonary symptoms. The morbid appearances met with in all the parts of the body I have mentioned attend with equal frequency both forms of lesion in the large intestine. The morbid appearances found after death, therefore, afford no sufficient reason for believing that two distinct diseases have been confounded under the term "dysentery."

When the close relation subsisting between dysentery and suppurative disease of the liver in India is considered, it cannot but appear remarkable that, amongst the many hundreds of cases of dysentery which have occurred in the Millbank prison during the last seven years, not one has been complicated with hepatic abscess. The medical records of the establishment, too, which reach back to the year 1824, afford no grounds for even a suspicion that such cases ever occurred amongst the prisoners. Dr. Budd* has adduced abundant reasons for the belief that, where hepatic abscess is associated with dysentery, the former disease is in all or most cases an effect of the dysentery, through the blood conveyed by the portal vein to the liver having been vitiated by morbid or putrid matters absorbed from the ulcerated or gangrenous surface of the large intestines. He has gone further, and has shewn, that, in a large proportion of the cases in which abscess of the liver exists without dysenteric disease of the large intestine, there is ulceration of some other of the mucous membranes which return their blood to the liver through the portal vein. But, although ulceration or sphacelus of the intestinal mucous membrane is capable of exciting abscess of the liver, and is its most frequent cause, yet some special conditions must be present, in order that the effect shall be produced: for the frequency with which ulcers seated in different parts of the gastro-intestinal mucous membrane, or even ulcers in the same parts, but due to different diseases, occasion abscess of the liver, is far from being the same in all cases. Thus, as Dr. Budd has pointed out, hepatic abscess is never seen in conjunction with the ulcerated intestine in typhoid fever, and is

very rarely associated with the ulceration of the intestines in phthisis. It has not, however, been owing to the peculiar seat or nature of the intestinal lesion that the dysentery of Millbank has been unattended by the hepatic complication; for in this dysentery in the Millbank prison the disease of the mucous surface, both as to its seat and in its nature, has been the same as in the dysentery of India, with which hepatic abscess is so frequently associated. The generally less severe character of the disease at Millbank likewise cannot be the cause of the difference; for amongst the cases of hepatic abscess with dysentery recorded by Mr. Annesley and by Dr. Parkes, there are several in which the amount of disease in the large intestine was inconsiderable. We must, then, seek some other explanation of the fact that dysentery amongst the prisoners at Millbank has not led to the formation of abscess in the liver; and in this inquiry we must first notice the important circumstance that the association of hepatic abscess with dysentery has not been equally frequent in all countries. When we examine the numerous dissections of fatal cases of dysentery in India recorded by Mr. Annesley, Mr. Twining, and Dr. Parkes, we find that hepatic abscess existed in rather more than one-half the cases. In the 51 cases, for example, detailed by Mr. Annesley, there were 26 in which the dysentery was attended with abscess of the liver. On the other hand, M. Broussais, who relates 17 cases, with dissections, of fatal dysentery, does not mention his having found abscess of the liver in any one instance, although he generally notices the condition of that viscus. And Rokitsansky,* in his dissections of cases of dysentery, has never found the liver visibly diseased. Again, in China, where dysentery is very fatal to Europeans, the infrequency of hepatic disease is very remarkable. This is testified to by several medical officers of the army and navy who have had opportunities for observing the diseases of our troops both in that country and in India.† It is established, too, by the statistics of the hospital-ship *Minden*, which was stationed at Hong Kong during the military and naval operations in China, and was under the superintendence of Dr. John Wilson.‡ Amongst 61 fatal cases of dysentery in which the bodies were examined after death, there were only two in which hepatic abscess was found.

The infrequency of hepatic abscess in these instances might be ascribed to the

* *Med. Jahrbücher des Oesterreich-Staates*, Bd. xx. 1840, p. 81.

† *Transactions of the China Medico-Chirurgical Society for the year 1843-1846*, pp. 14, 25, and 49.

‡ *Medical Notes on China*. London, 1846, p. 258 et seq.

* *Diseases of the Liver*. London, 1845, pp. 49-73.

greater coolness of the climate, compared with that of India. It is certainly conceivable that the high temperature of the climate of Bengal may induce vascular turgescence of the liver, and thus favour the formation of abscess under the influence of such an exciting cause as a vitiated state of the portal blood; but difference of temperature cannot be the only reason why dysentery gives rise to hepatic abscess in one country and does not in another; for in the West Indies, where the prevalence of dysentery is often very great, and where the heat is intense, hepatic abscess is by no means a frequent complication of the disease. In Europe, too, abscess of the liver has been observed in some epidemics of dysentery, while in others it has been absent. During the epidemic which prevailed in Dublin in 1818, Dr. Cheyne met with hepatic abscess in 4 of the 30 cases which he has published; but, as I have before mentioned, M. Broussais did not find it in the camp dysentery which he observed in the years 1805 and 1806. It would therefore appear that the malaria causing the dysentery has at some times and in some places the property of predisposing to abscess of the liver, and at other times and in other places has not this property. In the case of the prisoners at Millbank, however, another influence possibly comes into play: it is easy to conceive that persons whose diet is most regular and unstimulating, and in quantity not superabundant, would be less liable than others to suffer from a turgid state of the capillary system of the liver, and, consequently, would be less prone to the occurrence of suppuration in that organ. At all events it is certain that, besides difference of climate, and difference in the properties of the malaria itself, there is another cause which may affect the frequency of this serious consequence of dysenteric disease of the colon. All the best authorities on the diseases of India concur in stating that hepatic abscess is extremely rare among the natives of that country, though dysentery is very prevalent amongst them.* This may be owing to the original constitution of the Hindoos; but it is impossible not to remark the great similarity which exists between their simple and spare diet and that of the criminals in a British prison. In both instances it is possible that the diet contributes to render the hepatic disease an infrequent complication of dysentery.

There are two *general diseases* of the system with which I have found dysentery very frequently combined: one a chronic disease, namely, tubercular phthisis, or the tubercular cachexia generally; and the other

an acute disease, namely, continued or typhoid fever.

The old notion, that pulmonary phthisis is less frequent in malarious districts than in those that are healthy, was revived two or three years ago in France. The state of the atmosphere which produced fevers of various kinds afforded a protection, it was said, against tubercular disease, and it was proposed to send persons who evinced a phthisical tendency to pestiferous localities in order to preserve their health.

The converse of this doctrine seems to be held by Rokitsansky. He says that persons affected with tubercular disease of the lungs in active progress are never, or only very rarely, attacked by either typhus, or cholera, or dysentery.*

Now, if the former of these doctrines include the atmospheric cause of dysentery, amongst those kinds of malaria which prevent the development of tubercular disease, and if it be admitted that the dysentery at Millbank has been caused by an atmospheric poison, then the doctrine in question will be opposed to the fact that, in the Millbank Penitentiary, as well as in several other prisons, both dysentery and tubercular disease have prevailed together during many successive years.

The mortality from dysentery, and other bowel complaints, in the Millbank Penitentiary, though not absolutely great, has been nearly five times as considerable in proportion to the population as the mortality from the same diseases amongst adults in the metropolis generally. Yet tubercular phthisis has been the most frequently fatal disease; the rate of mortality from phthisis, and the other tubercular affections, having been nearly four times as high amongst the prisoners as amongst persons of the same period of life, in the general population of London.

In an American prison, that of Sing Sing in the state of New York, there has been the same prevalence of dysentery and other diseases undoubtedly produced by the agency of malaria, and the same excessive mortality from tubercular phthisis.

The results of the examinations of the bodies of prisoners who have died in the Millbank Penitentiary are equally at variance with Rokitsansky's notion that dysentery will not attack persons labouring under tubercular disease. Amongst 27 cases during the last six years in which death was caused principally by tubercular disease of the lungs, there have been 10 in which that disease was combined during the last few days or weeks of life with active dysenteric disease of the large intestines. As Rokitsansky

* See, for example, Twining, on the Diseases of Bengal, p. 3. Parkes, op. cit. p. 118.

* Med. Jahrb. d. Oester. Strates, Bd. xvii. 1838, p. 226; Bd. xix. 1839, p. 423.

tansky regards only the gangrenous inflammation of the colon as the true dysenteric process, it is necessary to say that in three of the cases the disease was of that character. With regard to the other cases, however, the symptoms during life, the prevalence of dysentery in the prison at the time, the signs of active inflammation in the mucous membrane of the colon or rectum, and the absence of tubercular matter from the margins and bases of the ulcers, left no doubt that the lesions found in that part of the alimentary canal were really the effects of dysentery, and not of the tubercular disease itself.

But let me remark, that, although in these instances tubercular ulcers of the large intestine were not mistaken for dysenteric ulcers, yet in their seat the ulcers of tubercular disease and those of the discrete form of dysentery are identical, and their characters in the chronic stage very similar. They are both seated, at their commencement, in the solitary glands, and, during their extension, assume similar forms, and frequently acquire the same thickened edges. In the base and edges of the tubercular ulcer, however, small points or masses of tubercular matter can generally be detected.

It is interesting here to notice not only the remarkable proneness of the glands of the intestines to disease, but also the especial liability of one set of these glands to one disease, and of another set to other diseases. Thus, while the glands of the large intestines are the seat of dysentery, those of the small intestines are the special seat of the intestinal lesion in typhoid fever. Tubercle attacks the glands in the whole length of the intestinal canal, those of the small intestines, however, most frequently; while another chronic disease, carcinoma, frequently affects the submucous vascular tissue of the large intestines, beginning perhaps in the solitary glands; and but rarely attacks the small intestines.

With respect to the combination of dysentery with typhus or typhoid fever, of which Rokitsansky denies the occurrence,* I shall at present only remark that at Millbank prison it has been frequent; and that in the fatal cases the characteristic lesions of the two diseases were many times found perfectly developed. The drawings I now show represent the morbid appearances in the small and the large intestines of two such cases.

I fear that the length to which my observations on the morbid anatomy of dysentery have run has been tedious. I have been led into this error, if such I have committed, by the varieties of opinion and statement to be found in the writings of the

best authors on the subject I have been discussing.

I should have no such excuse to offer were I equally prolix in speaking of the *symptoms* of dysentery, for, respecting these, in all important points, the most perfect agreement exists.

Sydenham describes the disease as beginning with "a rigor succeeded by heat of the surface, and afterwards by tormina and purging. The febrile symptoms" he says, "may be absent. The attack then begins with the tormina which purging soon follows. Extreme pain and bearing down of the intestines attend each of the alvine discharges, which are very frequent. The discharges themselves consist of mucus, but now and then, after many of these mucous stools, one of a feculent character is passed without much pain. The mucous discharges are generally mixed with blood. But sometimes no blood is seen in the stools throughout the whole course of the disease."*

This description of dysentery, as it was observed by Sydenham in London in the latter half of the 17th century, comprehends nearly all the most prominent features which have been assigned to the disease by later writers, in whatever part of the world they have observed it.

The dysentery amongst the prisoners at Millbank, as I said in my former lecture, has presented three grades of severity. The cases belonging to the two less severe degrees of the disease have been by far the more numerous, and these would for the most part be accurately described by the passage I have quoted from Sydenham.

The occasional absence of febrile disturbance noticed by this close observer of disease, is especially important in a practical point of view. For, the cases having this character, we are apt to treat lightly; and then, from prompt measures not having been adopted in the early stage, a troublesome and obstinate diarrhoea often remains for a long period.

In the cases of the second degree of severity there is almost always heat of skin, thirst, and loss of appetite. The tongue is red, and less moist than natural, and the pulse slightly accelerated. But still, even in these cases, the feverish disturbance is usually not more than may be regarded as simply symptomatic of the local inflammation. And, as Willis remarks, in his account of the "*Dysenteria Cruenta*" which raged in London in the year 1671, there is no rapid exhaustion of the strength. This is a character distinguishing most cases of the two milder degrees of dysentery from typhoid fever and the exanthematous fevers.

* Sydenham, *Observat. Med. circa Morb. Acut. Hist. et curat. Lect. iv. cap. iii.*

* Oester. Jahrb. Bd. xvii. p. 226.

Some differences in the symptoms, dependent on the part of the large intestines which is affected, are important in relation to the treatment of the disease. Sydenham's description applies more especially to those cases in which the rectum and sigmoid flexure of the colon are the parts affected. Here the tenesmus is extreme, and is accompanied with pain and a sense of weight in the sacrum, and sometimes with irritation of the bladder: symptoms which are explained by the nervous sympathies and the anatomical relations of the rectum. The *feces* in these cases, too, are often solid or nearly so when discharged.

But where the lower portions of the canal are *not* affected, tenesmus is necessarily absent; the stools are less frequent, and the mucus and blood are mixed with the *feces* when discharged. This is more especially the case when only the cœcum and the ascending colon are affected, and then, indeed, the blood and mucus can seldom be distinguished from the liquid *feculent* matter with which they are mixed. These are probably the cases to which Sydenham referred when he said that sometimes no blood is seen through the whole course of the disease.* It is easy to see how these differences arise. The contents of the small intestines naturally enter the colon in a perfectly liquid state, and gradually acquire consistence as they approach the rectum. Now, if the cœcum and ascending colon are the seat of inflammation, these liquid matters are at once propelled onwards, carrying with them and concealing the morbid secretions of the mucous membrane, and are discharged as liquid *feces*. But if the inflammation is seated in the sigmoid flexure, or in the rectum, the matters poured into the colon from the ileum are detained for some time in the ascending colon and the transverse colon, which are healthy, and there acquire consistence before they are discharged. It seems, indeed, that their passage onward is resisted by spasmodic contraction of the intestine immediately above the inflamed portion. The mucus and blood poured out by the inflamed membrane are, therefore, expelled without admixture of *feculent* matters; and when at length the spasmodic contraction of the middle portion of the intestine gives way, the contents of the upper portion are discharged in a solid, or nearly solid, state. From this account it is obvious, first, that the absence of blood and mucus from the discharges proves no difference in the nature of the disease; and,

* Sydenham may here have alluded to the cases in which mucus is discharged in large quantity unmixed with blood. In these cases, which are rare in comparison with those of the ordinary "bloody flux," the inflammation of the large intestine is of a languid character, and has a tendency to assume a chronic form.

secondly, that the degree of consistence of the excreted *fecal* matters indicates with some degree of accuracy the seat of the dysenteric inflammation. There are, however, exceptions to the latter rule. Masses of long-retained *feces*, *scybalæ*, may be discharged at the commencement of a case in which the cœcum is the chief seat of the disease. And, on the other hand, there may be such an increased irritability of the canal that the contents of the intestine, as soon as they enter the colon, are propelled through the whole length of the large intestine, and discharged in a quite liquid state, although the rectum be the only part really affected with inflammation. The morbid irritability of the alimentary canal is sometimes so great that food or drink taken into the stomach excites an immediate discharge of the contents of the colon. This is frequently seen in the last stage of severe cases of dysentery, and is occasionally observed in very slight cases. Although, therefore, the degree of consistence of the *feces* is a point worthy of observation, it cannot constantly be depended on as an indication of the *seat* of the disease. A more constant guide is the situation in which pain and tenderness chiefly exist.

The *severity* of the disease may generally be estimated from a consideration of the local and general symptoms taken together, and more particularly from the amount of pain and tenderness, the frequency and quantity of the discharges, and the degree of febrile disturbance. But I may remark, that when the lower part of the intestine is the seat of the disease, a tolerably accurate estimate of the extent of mucous membrane affected may be formed from the mere quantity of bloody mucus discharged.

The source of this bloody and mucous discharge in the acute stage of dysentery is not the solitary glands, but the tubular follicles of the mucous membrane. This is rendered certain by the microscopic characters of the discharged matters. When I spoke of the anatomy of the mucous membrane, I mentioned that the granular matter contained in the solitary glands was composed of solid particles of flattened figure and strongly defined outline, resembling the nuclei of certain cells or globules; while the contents of the follicles were, at one time, epithelial particles, at another round nucleated globules, exactly resembling mucous globules. Now the bloody mucus discharged in dysentery is composed of such nucleated globules, generally mixed with numerous blood-discs. Sometimes the globules are seen here and there still connected together in a cylindrical mass, such as they form while in the tubular follicle. The puriform matter occasionally discharged in acute dysentery has probably the same source. In the chronic stage of dysentery, also, pus, or a puriform matter,

is often excreted. But here this matter seems to have a different source. It probably comes, in the slighter cases, from the enlarged and diseased solitary glands, and in the more severe cases from the numerous ulcers which have been left after the destruction of the glands, and of smaller or larger portions of the mucous membrane.

The principal characters which have distinguished the cases of dysentery of the greatest severity observed at Millbank, are indicated by Sydenham, when he says that, under certain circumstances, "fever arises, the tongue becomes thickly coated with a whitish mucus, or even black and dry, the strength and powers of the system are depressed, and all the signs of an ill-conditioned fever manifest themselves." These are the cases in which the mucous and submucous coats are, after death, found extensively mortified and sloughing. Here the pain is generally severe at first, but afterwards ceases to be complained of, while the functions of the sensorium become disturbed. In some cases the pain has ceased suddenly, and then a greatly increased feebleness and acceleration of the pulse, and a diminution of the heat of the surface occurring at the same time, seemed to denote the accession of mortification in the inflamed intestine. In a few of these cases no pain in the abdomen has been complained of throughout the whole course of the disease.

The discharges from the intestines in this form of dysentery are muciform and bloody at the very commencement of the attack. Afterwards they are generally quite watery, though still bloody, and, when mortification has taken place, are excessively foetid. At a later period of the disease, the discharges are no longer bloody, nor so watery as at first. They generally consist of very liquid faeces, in which occasionally portions of the sloughing coats of the intestine can be distinguished.

The local as well as the general symptoms of this most severe form of dysentery differ, therefore, in kind as well as in degree from the symptoms of those less aggravated cases of the disease, in which the lesion consists, not in diffuse gangrene of the mucous membrane of the large intestine, but in destructive inflammation, confined to the solitary glands, or at most affecting only the prominences of the rugae to a limited extent. The most important differences in the symptoms are those which indicate that the blood has undergone a morbid change in composition, and that the powers of the nervous system are disturbed. These symptoms are, the general febrile disturbance, the quick and feeble pulse, the dry and often brown tongue, the loss of muscular power, frequently intense headache, delirium, and sometimes subultus tendinum. Many of

these symptoms show themselves before mortification of the mucous membrane can have taken place, though they afterwards increase in degree. They seem, in fact, not so much the consequence of the local lesion as the manifestation of that altered state of the circulating fluid which causes the inflammation of the large intestine to take the diffuse gangrenous form. This form of the disease has, at the Millbank prison, generally attacked the weakest subjects; but there have been exceptions to this rule. Three strong and apparently healthy men have perished from it, and the same thing has been observed elsewhere. We must conclude, therefore, that the peculiar character assumed by the disease in these cases has been due, not to anything originally morbid in the systems of the patients, but to the atmospheric poison, which produces the dysenteric inflammation around the solitary glands of the large intestines, being itself modified, or perhaps I should rather say, combined with another poison, which alters the composition of the blood.

The difference, then, between this diffuse gangrenous form of dysentery and the more common discrete form, for to that question I must once more return, seems to me to be the same in nature and degree as that which exists between the malignant scarlatina and the benign form of that disease. And this seems, indeed, to be the view taken by those Indian practitioners who have had the largest experience in the observation and treatment of dysentery. They distinguish this form of the disease as the adynamic dysentery, while the milder form they term simple dysentery.

Thus far I have noticed only those characters of the dysentery of Millbank prison which it possesses in common with the same disease in other localities. I must now mention a class of symptoms which has been observed in connection with dysentery, as far as I know, only in that establishment. I allude to the disorders of the nervous system, to which a separate chapter is devoted in Dr. Latham's account of the epidemic which prevailed in the Penitentiary in the year 1823. "No part of the disease," Dr. Latham there says, (p. 78), "was more striking and characteristic, none more formidable and difficult to treat, than that which declared itself through the medium of the brain and nervous system." Some slight nervous affections, tremors, cramps or spasms, and various degrees of mental despondency, were observed by Dr. Latham and his colleague, Dr. Roget, at their first visits to the Penitentiary, but were regarded by them only as symptoms of constitutional weakness. "In process of time, however," Dr. Latham observes, (p. 79) "disorders of the brain and nervous system became more and more frequent, and of various kinds;

headache, vertigo, cramps, and twitobings of the limbs, delirium, convulsions, and apoplexy. But since these disorders did not immediately discover themselves in all their variety and magnitude, it was not until after much observation that we were enabled to tell their genus and character, and to know that they constituted one form of the predominant disease; that they were not contingent upon the flux, nor the flux contingent upon them; that either might exist separately, although they were generally found in combination; and that both arose from a morbid condition essentially the same, but falling upon different parts." Of the nervous affections here referred to Dr. Latham gives many striking examples.

Now the affections of the nervous system which formed so remarkable a feature of the epidemic of 1823 have been witnessed by myself during a more recent outbreak of the disease at the Penitentiary. Bowel complaints in some form or other have almost always been prevalent. Not so the peculiar nervous disorders described by Dr. Latham. They have shown themselves only during a limited period, comprehending the last few months of the year 1841, and the greater part of 1842.

It was in the autumn of the former year that I first met with several cases of nervous affection which were perfectly new to me. Two or three women, otherwise apparently in perfect health, complained of inability to open their mouths except a very short distance, and on examining the muscles which bring the jaws together I found them rigid. Others had cramps in their hands, so that the fingers were drawn tightly together without being much flexed, and could not be moved by the patients themselves; while the attempt by another person to alter their position gave great pain. These symptoms were unattended by diarrhoea, constitutional disturbance, or any other morbid state whatever, and they soon passed off. The patients who were the subjects of them were females, and were not many. I was interested, however, in the appearance of these nervous disorders from their correspondence with some features of the disease described by Dr. Latham.

During the months of December 1841 and January 1842 several cases of dysentery of unusual severity occurred amongst the prisoners, and in the succeeding months they became so frequent as to constitute an epidemic. Then it was that the nervous disorders appeared in a more formidable shape. One young man, 17 years of age, of most healthy aspect, was attacked with dysentery of active inflammatory character, but presenting no feature calculated to cause alarm. On the seventh day of his illness, cramps, attended with agonising pain, seized

his limbs, and soon affected also the trunk of his body. These cramps were as severe as are ever seen in cholera, but were not attended by the depressed circulation and coldness of the surface observed in that disease. On the contrary the pulse was full and bounding, and the surface hot, and steaming with a profuse perspiration. The patient in the midst of his sufferings retained perfect consciousness, and complained of a peculiar sense of heat all over his body, which he described as the blood boiling in his veins. This sensation seemed to distress him more than the pain produced by the cramps. The spasms abated from time to time, never, however, entirely leaving him, and each fresh paroxysm was more violent than the preceding one. At length they became so severe and general that his body was twisted from side to side, and his features dreadfully contorted, as we see the body and features of a patient in a fit of epileptic convulsions. His mind, however, remained clear to the last. Calomel and opium in large doses, venesection, cupping along the spine, warm baths, and antispasmodics, were the remedial means employed with some temporary relief. The spasms abated for a time after each of these measures, but soon again became more terrible than before; and at length the muscles of inspiration seemed to be implicated, and the sufferings of the patient were cut short by suffocation. This happened on the 11th day of the dysenteric attack, and the 3d day of the nervous affection. The body was examined 24 hours after death in the presence of Dr. Burrows. The lesions I have described as belonging to the milder form of acute dysentery were found in the large intestines. But the brain and spinal cord were perfectly free from any appearance of disease.

Another variety of these severe nervous affections was seen in a young woman, 22 years of age, who had just recovered from an attack of dysentery which had commenced a month previously. She was suddenly seized, late in the evening, with general cramps, and loss of feeling in the extremities. The next day I found her lying extended in bed, with her legs, arms, and trunk, quite rigid, and complaining of pain across the loins, and of a dreadful sense of oppression at the pit of the stomach. The skin of the extremities was quite insensible to external impressions, and she appeared to suffer no pain in them. The cramps gradually ceased,—first in the trunk, and then in the extremities. On the 4th day of the attack her limbs were no longer rigid, but she had lost the power of moving them. On the following day there was a temporary return of cramps in the legs and forearms, accompanied with pain; but they

soon finally ceased, and the power of moving the limbs returned. The patient's nervous system, however, had evidently suffered a severe shock. Her pulse, which, during the continuance of the spasms, had been scarcely at all altered from its natural character and frequency, became rapid and feeble; hence, although dysentery had re-appeared, together with frequent vomiting, on the 4th day of the nervous attack, active measures to check it could not be thought of. The dysentery and vomiting continued, and hastened her dissolution, which took place on the 19th day from the first appearance of the spasms. Here, again, the large intestines presented after death the effects of dysentery in an early stage; and the mucous membrane of the duodenum was red, thickened, and mammellated, apparently from inflammation; but the brain and spinal cord were quite free from diseased change.

A third fatal case occurred, in which dysentery on the 4th day of its duration became associated with severe cramps in the muscles of the extremities, the neck, and face. The cramps ceased at the end of four days, and death was caused on the 22d day of the dysentery by inflammation of the lungs. The brain and spinal cord in this instance were not examined.

Now in these three severe cases the symptoms indicated an affection of the powers of sensation and motion, while the higher sensorial faculties were unimpaired. And of like character were a great number of slighter cases, which were frequently occurring amongst the prisoners. They consisted for the most part of cramps in the extremities, with now and then a similar affection of the muscles about the lower jaw.

But there were other cases in which the brain was manifestly implicated. The patients, sometimes affected with slight dysentery, sometimes having no affections of the bowels whatever, complained of intense headache, and had a heavy expression about their eyes; while, except in the instances where dysentery existed at the same time, all their bodily functions were properly performed. Others lay with their heads buried beneath the bed-clothes, not sleeping nor in a state of complete stupor, but in a condition of mixed stupor and apparently wayward obstinacy. It was with the utmost difficulty that any information as to their sensations could be drawn from them: their state had a resemblance to some forms of hysteria, yet there was no characteristic hysterical symptom. And on the other hand, there was no undue heat of the surface of the head, nor any other sign of vascular excitement. The state here described was sometimes combined with cramps in the extremities, or with slight dysentery, but often

it occurred alone. Here, again, the patients were in most instances females.

Had I seen only those nervous affections which consisted in cramps, convulsions, and partial loss of sensation in the limbs, I should certainly not have placed in the same category with them, as part of the prevailing epidemic, one remarkable case in which the nervous disorder assumed the form of cataleptic ecstasy. But the variety of nervous disorders last mentioned made it evident that not merely the motor and sensitive functions, but the faculties of thought and volition also, might be disturbed by the noxious influence from which the prisoners were so generally suffering, and thus afforded grounds for regarding every unusual affection of the nervous system which occurred at the same time as an effect of the same general cause. The case to which I refer was that of a young man, 22 years of age, who was first attacked with an affection of the bowels in the form of profuse serous diarrhoea; quarts of watery fluid being discharged from his bowels in the course of 24 hours. He complained of intense pain in the left hypochondriac region, and of tenderness of the whole abdomen. Notwithstanding the absence of all general signs of the presence of inflammation, I was induced to use local depletion and mercury, with opium, the means which had proved most successful in the treatment of other forms of the prevailing intestinal disease. In this case they wholly failed. And then metallic astringents, with opium, were substituted at the suggestion of Dr. Burrows, who had been requested by the Superintending Committee of the Penitentiary to afford his valuable professional aid at the time when the epidemic prevailed most extensively. The new remedies immediately arrested the diarrhoea, but now a fresh train of symptoms presented themselves. The patient's mind seemed no longer to take cognizance of the impressions made on his senses. He sat up in bed frequently repeating half aloud a sentence consisting of two or three words. His eyes were open, but he did not seem to observe surrounding objects: when questions were put to him he did not answer, or only repeated the last word or two of the question. When his chin was depressed he mechanically protruded his tongue, and kept it protruded until his lower jaw was raised again; he then withdrew his tongue, and allowed his mouth to be closed. When his arm was raised he kept it in the position given to it till it was returned to its former place by another person. Food and medicine he swallowed when they were put in his mouth, but never expressed either repugnance at the one or desire for the other. He appeared conscious of no suffering. His

skin was cool, his tongue moist, pale, and nearly clean, and his pulse slow and rather full. In this state he continued three days; the nervous symptoms then gradually passed off, and merely slight diarrhoea remained. It may appear questionable whether the occurrence of this case during the epidemic of dysentery in the year 1842 was not accidental, and whether in its origin it was not wholly unconnected with the cause or causes by which that epidemic was produced. But besides the occurrence at the same time of other cases in which the minds of the patients were certainly affected, though in a less degree, and besides the testimony of Dr. Latham to the appearance of nervous symptoms of the most unusual and various characters in the year 1823, there was the fact that the nervous affection in this case was immediately preceded by diarrhoea, tending strongly to establish an alliance between it and the other forms of disease which more especially characterized the epidemic.

In their nature all the nervous disorders seemed to resemble each other in being merely functional: that is to say, they were not dependent on inflammation or any appreciable change of structure either in the nervous centres or in their investing membranes. In this respect they resembled the cramps and convulsions generally attendant on cholera; but, as I have before remarked, the patients who suffered from them presented nothing of that state of collapse,—of depressed circulation, and diminished animal heat, which characterises cholera.

I have sought in the works of many writers on Dysentery for evidence of the occurrence of nervous affections of a similar kind in conjunction with that disease in other localities, but have found none. Even Dr. Copland, who has himself had the opportunity of witnessing dysentery in many climates, and appears to be acquainted with almost all that has been written on the subject, makes no mention of any instance in which the disease was attended with nervous affections such as those observed at Millbank.

It is, however, well known that the most formidable of all functional affections of the nervous system, tetanus, is especially prevalent in hot climates. These facts must be borne in mind when we attempt to explain the nervous disorders which have during two epidemics of dysentery affected the prisoners in the Penitentiary. The inquiry, however, into the causes on which the prevalence of dysentery and these nervous disorders in the Penitentiary depended, must be postponed to the next lecture, when I shall, in conclusion, offer a few remarks on the treatment of dysentery.

Original Communications.

RECORD OF CASES,

By THOMAS MAYO, M.D. F.R.S.

Physician to the Infirmary of St. Marylebone.

Pulmonary Cases, and Treatment.

MARY CLIFFORD, aged 21, was admitted into the Infirmary, Jan. 25, 1847, emaciated in person, labouring under cough, orthopnoea, with a small pulse and frequent flushes, not, however, of a hectic character. She had been confined four weeks before, and described herself as having caught cold from having been left in her wet linen, water having been largely used for the suppression of hæmorrhage. There was no undue heat of skin, and no rigor. Under the right clavicle, absence of vesicular breathing, and some large crepitus, almost amounting to gurgling; there was equal dulness and more crepitus in the same lung posteriorly; on the left side of the thorax both sound and breathing normal. The sputa, when I first saw them, were muco-purulent; afterwards, until her convalescence, purulent, with very little mucus. Their character was at no time that peculiar to bronchitis—I mean they were not frothy, slippery, and tenacious in their substance.

These symptoms, with much tenderness in the crepitous surfaces, both before and behind, were the main pulmonary features of the case. There was also a constant tendency to diarrhoea. From her admission, the improvement of this patient was progressive and steady; and, by the 7th of February, I noted that the breathing had much improved; that she lay prone with ease to herself; the sound on percussion had become clearer, both under the clavicles and in the posterior lung on the right side. On the 13th, dulness had nearly disappeared, and no crepitus was audible. On the 16th the vesicular penetration was quite established over the right side; and, when she quitted the Infirmary (somewhat prematurely), on the 25th, the cough had entirely ceased, and all crepitation had disappeared, but she was weak and languid.

Treatment.—Up to the 30th of January—Haust. Scillæ c. & there

3iss.; Syrup. Papav. 3j.; Tr. Camphoræ Co. 3ss. 8vis horis. From that time to the 12th of February, during which period her improvement was marked—Ext. Aconit. gr. j. 8vis. From the 27th of January to her leaving the Infirmary, the Unguent. Iodinii c. Potassæ Iodid. was rubbed in extensively over the right side of the thorax, quotidie. The bowels were effectually restrained by the Mist. Catechu Co. On the 18th of February, Ferri Citrat. gr. iv. were ordered 8vis horis, in reference to her weakness and to leucorrhœa, under which she laboured, but were soon discontinued, heat of skin, discomfort, and quickness of pulse, ensuing on their use, which symptoms were appeased by three grains of calomel.

The rapidity of success with which the treatment of this case was attended indisposes me to believe that there could have been any softening of tubercles involved in it, which I was at first led to suspect, in some measure from its localised character, and in some measure from the absence of genuine *bronchitic* sputa, when it fell under my care; though, perhaps, this reasoning is fallacious; for when does phthisis ever exist without bronchial inflammation? In this and the succeeding cases a narcotic may be noticed as apparently beneficial which is not often used in the present day—the extract of aconite. I believe that one great cause of the fluctuating value of medicines is to be found in the fluctuating nature of disease, and that the remedy which suits one epidemic may be inappropriate to the corresponding epidemic of another year, and may have to wait till its turn comes round. Such is the reasoning which an attentive perusal of the views of Sydenham suggests, and in this point time has not diminished their value.

Sarah Dodd, a thin, dark woman, aged 48, came into the Infirmary, Jan. 28, 1847. Her catamenia had ceased for six years. She had coughed for two months; her skin was cool; her breathing hurried; very bronchial and crepitous down the right side, as well as under that clavicle; bronchial also on the left. Percussion gave a dull sound generally on the right side. The sputa were purulent, with some mucus. This patient went out, Feb. 27th, free from all her pulmonary symptoms except comparative dulness and defective vesicularity on the right side.

A blister under the right clavicle, the Haust. Scillæ c. Æthere, one grain of the extract of Aconite 8vis horis, to the 9th of February, then two grains to the 20th, had constituted her treatment. On the latter day pyrosis took place, which ensued in another case under the use of aconite, and ceased when it was discontinued.

The bronchitic character of this case was unquestionable, though the characteristic sputa did not exist when she came in. Unlike that of the first case, the crepitus was throughout bronchial and tubular. Still, the endurance of local dulness and defective breathing when the patient discharged herself, left a suspicion of further mischief.

Ellen Daley, aged 11, was admitted Jan. 9th, 1847, with cough, defective respiration, inspirations 28 in the minute, dulness in the left subclavicular space, a cooing sound there, and a crepitus too small to be referred exclusively to the larger bronchial tubes, if it did not imply vesicular infiltration. Better sound and more effective inspirations under the right clavicle, on which side the ribs expanded most, but some crepitus of the same kind there also. A more tubular crepitus existed under the left axilla, and in the lower left lung posteriorly. The sputa were muco purulent.

The appearance of this girl was better than her symptoms; the eye and complexion healthy; macies not considerable. She had been ill three months, and had been inadequately nourished. The skin in the morning was cool, but I heard of rigors and feverish heat as occurring in the evenings. The pulse gave no indication: the appetite was good.

Here was chronic bronchitis, and probably something more. For though she left the infirmary on the 18th of Feb. freed from cough, having gained flesh, and in excellent spirits, and apparent health, no fever recurring in the evenings, there still survived of her stethoscopic symptoms, some crepitus, which, if solely in the bronchia, must have belonged to their minuter ramifications, as well as the larger, and some cooing sound over the left subclavicular space.

The treatment of this case consisted in the use of Mist. Tragacanth Co. 3iss. c. Potassæ Nitrat. ʒj.; Træ. Hyosyam. mxx. 8vis. to the 27th of January; then Ext. Aconit. gr. ss. 6tis; ex-

changed, Feb. 9th, for gr. ij. o. n. On the 9th of Jan. a blister was applied on each subclavicular space. Her marked improvement was certainly coincident with the exhibition of the aconite.

The diet of this patient, as of the two former ones, was nutritious but unstimulating.

Rebecca Bishop, admitted Dec. 2d, 1847, ætat. 18, had previously suffered for two months with a cough which commenced with hæmoptysis. She had never menstruated; her breasts were formed; her person thin but not emaciated. The right subclavicular space and that side of the thorax generally was dull, the respiration absolute and comparatively defective; a slight distant crepitus like a click was at first noticed by me under the clavicle; this increased, and a crepitus, apparently not involving large bronchial tubes, was observed over the whole right thorax anteriorly. At one circumscribed place just under the clavicle, about an inch from the sternum, there was peculiar tenderness and dulness. The voice on that side was resonant; on the other side the breathing was supplementarily strong, and the voice natural. At first rigors occurred every evening; these soon ceased.

The progress, indeed, of this patient was at first very satisfactory; her cough and muco-purulent expectoration diminished. But early in January cough and expectoration increased again, and on the 19th acute bronchitis set in on both sides of the chest. This attack yielded to the Potassio-tar. of Antimony with Ipecacuan; and the course of the patient has again become favourable. Her state is at present as follows:—she only coughs at waking in the morning; her expectoration is sparingly purulent; the respiration still unduly quick. 30 in the minute; the breathing on the left side is softer, and there is more vesicular penetration and less crepitus on the right. Still the voice is very resonant on the latter side, being natural on the former. Her appetite is good, her appearance improved, nails not adunc, and absence of macies. That there exists a tubercular mass is probable in this case, combined with chronic bronchitis; and the bronchitis may have realised its imputed tendency to produce tuber-

cle.* Still no softening can have yet occurred.

Of the remedies adopted in this case the most obviously beneficial have been at first the repeated application of small blisters under the left clavicle; during the last month the use of the Unguent. Iodini c. Potassæ Iodid. and, at the same time, the Extract of Aconite, given first alone, in two grain doses 8vis horis, when it appeared cough but produced nausea and vomiting afterwards in doses of one grain 8vis horis, combined with Pil. Hydrag. gr. iij.

Such is the present condition of this case, which I am tempted to give, as I shall probably soon lose sight of it.

Peter Borden, a much-worn pallid man, aged 70, was admitted Dec. 5th, 1846. He had laboured under a recurring winter cough five years. On either side the subclavicular space was filled up by emphysema giving unnatural clearness of sound; the inspirations were deficient; the expirations rough and prolonged, frequently with a loud ronchus. In this case the Haust. Salin. Ammonial. c. Træ. Hyoscy. 3ss.; Træ. Lobeliæ, ℥xv. 8vis, profited much; and when, some days afterwards, namely, on Feb. 3d, the extract of Aconite, gr. j. was added, ter in die, the improvement was very marked, and has continued without any relapse through very bad weather to the present time. His paroxysms of dyspnœa had been very severe.

I have tried the extract of aconite in three other cases, in which no definite or tangible result was obtained from it.

[To be continued.]

SIMULTANEOUS EXISTENCE OF VARIOLA AND VACCINIA.

M. TARDIEU has related a case of the simultaneous existence of variola and vaccinia in a man aged 18, who was vaccinated on the day on which the eruption of small-pox had made its appearance. The variola ran its course with its characters modified, and, after the desquamation of its pustules, an irregular eruption of cow-pox appeared. From this case he concludes that we may vaccinate with the hope of doing good not merely during the preliminary fever of variola, but even after the outbreak of an eruption.—*Dr. West's Report on Midwifery*, 1845-6.

* See Brownæsis.

ON THE
INHALATION OF THE VAPOUR OF
ETHER.

By JOHN SNOW, M.D.

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School, Aldersgate Street.

It will be at once admitted that the medical practitioner ought to be acquainted with the strength of the various compounds which he applies as remedial agents, and that he ought, if possible, to be able to regulate their potency. The compound of ether vapour and of air is no exception to this rule, although it might be supposed to form one, as the practitioner stands by to watch its effects. For, in the first place these effects vary materially according to the proportion of vapour given with the air, and in the next place, there is a counter process going on with inhalation, viz. exhalation. This increases with the amount of ether absorbed into the blood, and there arrives a point at which the exhalation may equal and just balance the inhalation, if the vapour be very much diluted; and this may occur before insensibility is produced. It is to this circumstance that we are to attribute the origin of the opinion that there are some persons—hard drinkers, for instance,—who are proof against the influence of the vapour. There may be persons on whom it does not act favourably, but I believe that no sentient being is proof against its influence.

It occurred to my mind that by regulating the temperature of the air whilst it is exposed to the ether, we should have the means of ascertaining and adjusting the quantity of vapour that will be contained in it: for the proportion of vapour in any given volume of air saturated with it at any particular temperature, is to the whole volume as the elastic force of the vapour at that temperature is to the atmospheric pressure at the time and place. This is true of all vapours in contact with the liquid which gives them off. Now the elastic force of the vapour of ether has been investigated by Dalton and Ure. I made some experiments with air and ether in graduated tubes over mercury, and found that the

quantity of ether vapour taken up at various temperatures corresponded with calculations made according to the formula for the elastic force of the vapour of ether, given by Dr. Ure in his paper on Heat, in the Philosophical Transactions for 1818. I accordingly made use of his table and formula, as I stated at the Westminster Medical Society, in constructing the table published in the MED. GAZETTE on Jan 29. The ether I used was not altogether free from alcohol, and I conclude this must have been the nature of the ether used by Dr. Ure in his experiments on the elastic force of its vapour; for on making observations afterwards on washed ether, and on every kind of ether over water, (for it then becomes washed,) I found the quantity taken up by air somewhat greater; but the geometrical ratio of increase in the quantity, according to temperature, is the same, as I have ascertained by very numerous observations at all the usual atmospheric temperatures. To make the table I constructed correct for washed ether, which is always used for inhaling, it is necessary to subtract four degrees from the various temperatures; for instance, the numbers opposite 40° are correct for 36° , and so on. The ether I first used in my observations boiled at 104° . Washed ether boils at 100° , and if entirely deprived of its water by potash, at 98° . So long as ether contains no alcohol its specific gravity does not much influence the elastic force of its vapour, nor consequently the quantity that will mix with air; for water, having a much weaker affinity for ether than alcohol has, exerts less influence over its volatility.

The quantity of vapour of ether which air will take up at different temperatures, may be readily seen by introducing some ether to a measured quantity of air in a graduated receiver over the pneumatic trough, and noting the expansion which takes place, and the temperature of the air within. The vapour may be washed out of the air by passing it through a quantity of water, and the air may be again measured, when the experiment will have been both synthetical and analytical. The most convenient and satisfactory way of investigating this subject, however, is over mercury, by means of a graduated tube, bent in the form of

Dr. Ure's endiometer, the open leg being the longest. Pass a portion of air into the sealed leg of the tube, about as much as will fill one fourth of it, the quantity being carefully noted, whilst the mercurial level is preserved in the two branches of the tube, and the required temperature attained by immersing the syphon over its sealed branch, in water contained in a tall glass jar. A great portion of the mercury being withdrawn from the open leg by a long narrow tube, a few drops of ether may be introduced by means of the same tube through the mercury to the air in the sealed leg, by inclining the endiometer a little, and using a little pressure with the breath on the surface of the ether.

By plunging the endiometer in water at various temperatures, making a correction for the slight expansion and contraction which takes place in the air itself, from the increase and diminution of heat, and keeping the surface of the mercury level in the two legs, a number of observations may be made in a short space of time; and by washing the ether out of the air afterwards, and observing that the quantity of air is the same as at first, the whole of the observations will be verified.

The following table is suitable for washed ether which boils at 100°, and is quite free from alcohol but not altogether free from water; this being the kind of ether which is usually, and I think very properly, used for inhaling. The barometer is supposed to be stationary, and at 30°. This table is formed on a different plan from the former, to shew the quantity of vapour that air will take up; and as the air is made a fixed quantity, and the variation of the ether all exhibited in one column, the influence which temperature exerts over it is rendered more apparent to those unaccustomed for a long period to arithmetical calculations. A table formed in this manner is the most correct way of exhibiting the subject, because, since the vapour of ether is absorbed as fast as it arrives at the pulmonary air cells, the quantity inhaled will be influenced rather by the volume of the air, than by that of the mixture of air and vapour, provided the patient's respiration is not obstructed, and it never should be, by the apparatus.

Table of the quantity of ether which 100 cubic inches of air will take up at various temperatures.

Tem- p. Fahr.	Cubic inches of vapour.	Minima of ether.
38°	34.4	37.8
40	36.9	40.5
42	39.4	43.3
44	42.2	46.4
46	45.3	49.8
48	48.6	51.4
50	52.2	57.4
52	56.2	61.8
54	60.5	66.5
56	65.2	71.7
58	70.6	77.6
60	76.4	84.0
62	83.0	91.3
64	90.1	99.1
66	97.6	107.3
68	106.1	116.6
70	115.4	126.9
72	127.2	139.9
74	140.3	154.3
76	156.4	172.0
78	175.4	192.9
80	200.0	220.0
82	227.8	250.5
84	264.0	290.4
86	309.7	339.9
88	380.8	418.8
90	476.1	623.6

With the assistance of the above table we can determine the proportion of ether to air, and by measuring the ether consumed in an operation, the quantity of air, as well as of vapour, breathed per minute, or throughout the inhalation, can be easily determined by rule of three, and I shall state it in some of the cases I have to relate. This, however, can only be done when an apparatus is used which allows the temperature of the air passing through it to be accurately determined and regulated. The instruments at first used in America and in this country did not allow of any regulation of temperature, but were always used at that of the apartment, whatever it might be, and this afforded no index to the quantity of vapour taken up, for the evaporation of ether in a glass vessel containing sponges cools the air, more or less, according to the thickness of the glass and other circumstances, and it leaves the apparatus many degrees colder than it entered, as may be ascertained by passing air through an apparatus of this kind,

and noting the temperature with a delicate thermometer. Glass and sponge being bad conductors of heat, the caloric required to convert the ether into vapour is taken in a great measure from the air passing through the apparatus, its temperature being thereby reduced, and the quantity of ether which it will take up diminished. Instruments with compartments for warm or hot water, without the means of regulating the temperature of the whole apparatus, are still more objectionable than the former, for by them there is a risk of administering all vapour and no air. Hot water ought never to come near an apparatus for the inhalation of ether, nor even warm water, and when its temperature approaches to tepid it ought to be carefully regulated.

All that was required to regulate the temperature of both the ether and the air, and, consequently, of the resulting mixture, was to bring them into proximity with substances having a good capacity for, and a good power of conducting, caloric. The first we have in water, and the second in the metals; therefore, by placing the ether in a metal vessel, and that vessel in a basin of water brought to the desired temperature by mixing cold and warm water together, the object was attained. Two or three pints of water supply the caloric abstracted in the evaporation of an ounce or two of ether without being much reduced in temperature; and, as the water never requires to be many degrees either above or below the heat of the apartment, its temperature is but little altered by the surrounding air during the short time of an operation.

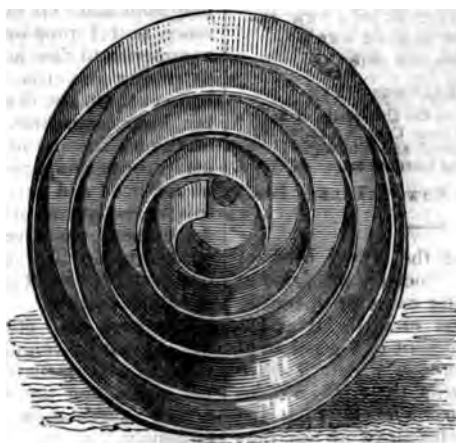
To ensure the saturation of air with the vapour of ether, all that is required is that the air should come in contact with the ether. The larger the surface of the ether exposed, the greater the evaporation, under ordinary circumstances, because it is exposed to more air; but the elastic force of the vapour of ether, at all temperatures above the freezing point of water, is such, that, to saturate the quantity of air which one person can breathe, requires no very great extent of surface. There is no necessity to make the air force its way through the ether, or pass with difficulty through sponges: the ether lies imprisoned in the liquid state only

whilst kept down by air already saturated with its vapour, and it is ready to project itself immediately into every fresh portion of air that has access to it, as every one is well aware who has made any experiments with it in jars over the pneumatic trough. However, to insure that the air should come in contact with the ether, and to prevent its being cooled by the contact, I had the interior of the apparatus constructed on the principle of the inhaler of Mr. Jeffreys, described in the *MED. GAZ.* Feb. 1844, which I had always considered the best inhaler for aqueous vapour. The coils of the tin volute are not so numerous as in the latter, but they are amply sufficient for so volatile a liquid as ether. The air has to pass through a pewter pipe before it enters the spiral chamber; by this means it gains the temperature we may wish, and the further advantage is attained, without the impediment of a valve, of preventing evaporation of ether into the room between the inspirations of the patient. In the other instruments that I have seen, there is either a waste of ether in this way, or else there is a valve to admit the air into the inhaler, which must be opened by means of the muscular effort of the patient. The vapour does not find its way in a retrograde direction through 18 inches of curved pipe between the inspirations of the patient; and, consequently, whilst there is no impediment to the free passage of air through the apparatus, no ether escapes till it has been breathed by the patient. The mouth-piece I have adopted is furnished with the cushion and India-rubber described by Mr. Tracy in a recent number of the *MED. GAZETTE*. I use, however, the common, and not the vulcanized, India rubber, as I understand that the latter frequently, if not always, contains sulphuret of arsenic. As the sudden access of air highly charged with ether produces irritation and cough in some persons, I was desirous of having the means of diluting the vapour to any extent, and Mr. Ferguson, of Giltspur Street, who has taken great pains to carry my wishes into effect, got a tap cast of wide calibre, opening two ways, by means of which the patient can begin by breathing unmedicated air, and have this gradually turned off as the etherized air is admitted in its place. This tap

offers the further advantage of enabling the medical attendant to keep up the state of insensibility during an operation by a more diluted vapour than that which was necessary to produce that state. All the passages through the apparatus are not less than five-eighths of an inch in diameter.



- | | |
|---|--|
| 1, Cap which unscrews to admit the air to | 7, External opening of ditto. |
| 2, Metal pipe. | 8, Flexible tube. |
| 3, Entrance of ditto into | 9, Ebony tube, containing ball valves of cedar wood. |
| 4, Spiral chamber. | 10, Portion of flexible tube to admit of change of position of |
| 5, Star closing aperture for putting in or pouring out ether. | 11, Mouth-piece, with soft cushion, &c. |
| 6, Two-way tap. | |



Interior of spiral chamber, the bottom being removed.

N.B.—The spiral tin plate is soldered to the top, and reaches nearly to the bottom.

Those cases of administration of ether are generally most successful in which the insensibility is produced in a short space of time; for instance, from a minute and a half to three or four minutes after the process is fully begun. This we might expect for various reasons; amongst the rest, that no process of inhaling can be carried on without interfering somewhat with the natural state of the respiration and embarrassing to some extent the circulation; therefore the shorter the process the better. Although the patient may begin by breathing air, and the ether may be introduced by degrees, yet, by turning the tap a little at each inspiration, the transition may be effected in from a quarter to half a minute. It is necessary to the success of the process that the nostrils and mouth be carefully closed. The patient should have plenty of air, it is true, but it should all come charged with the vapour, otherwise there can be no certainty about the process, and the patient will be more likely to become inebriated than insensible. The temperature I have nearly always applied has been from 65° to 70° , between which points the proportion of vapour and of air does not differ much from equality.

[To be continued.]

TWO CASES OF
FORMATION OF ARTIFICIAL PUPIL,
WITH THE DESCRIPTION OF A NEW INSTRUMENT FOR SEIZING AND DETACHING THE IRIS.

BY W. R. BEAUMONT, Esq.

Professor of Surgery in the University of King's College, Toronto, Upper Canada; Fellow of the Royal Medical and Chirurgical Society of London, &c.

(Communicated by EDW. STANLEY, Esq.)

IN laying before the Royal Medical and Chirurgical Society of London the two following cases of operation for the formation of artificial pupil, my object is to present to the notice of the society a forceps which I have invented for seizing the iris, and detaching its ciliary margin from the corpus ciliosa, or for drawing any portion of the iris through a wound in the cornea. Mr. Lawrence states in his work on Diseases of the Eye (2d edit.

p. 472), that Assalini first operated for artificial pupil by separation and excision of a portion of the iris (iridec-tomedialysis), and that he "used a small forceps of peculiar construction for seizing and detaching the iris, introducing the instrument into the anterior chamber through an opening previously made in the cornea;" but Mr. Lawrence considers the simple hook preferable to the forceps of Assalini. I am not aware of the form of forceps used by Assalini in this operation, or of the forceps used by Beer in excision of a portion of the iris, without detachment of its ciliary margin (Iridectomy), or of the forceps used by Schmidt in simple detachment of the iris (Iridodialysis), nor have I here the means of ascertaining their form; I therefore shall be excused if I present to the consideration of the society an instrument which may have in it nothing new. I venture to do so, however, on account of the great facility with which I accomplished the operations, the very small amount of consecutive inflammation, and the perfect success of the cases.

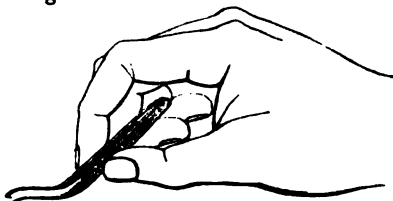
Mr. Lawrence says, (p. 469, bib. cit.) "for performing Iridodialysis, that instrument is best suited with which we can come nearest to the circumference of the iris, so as to seize it close to the ciliary ligament, and no one can deny that a simple fine hook is the best for this purpose." It is therefore with great deference to the judgment and experience of Mr. Lawrence that I propose any instrument as superior to the hook in seizing and detaching the iris from the ciliary ligament. On the dead subject I found the hook sometimes tear its way out of the iris instead of detaching it; in using the accompanying forceps, both on the dead and on the living subject, this laceration of the iris without its detachment never occurred, and I did not fail in any instance in seizing the iris at the first attempt, and close to its ciliary margin.

The hook may possibly in transfixing the iris wound the capsule of the lens; the teeth of the forceps are too short, and are set in a direction which causes them to enter the iris obliquely.

The point of the forceps, when the blades are closed, is perfectly smooth, the teeth being then concealed, so that

the instrument may be introduced into the anterior chamber without risk of wounding any other part than that portion of the iris which it is the operator's intention to seize.

The forceps should be held between the thumb and index of the right hand, midway between the angle and junction of the blades, which latter part should rest against the middle finger.



The forceps should, of course, be introduced closed through the wound in the cornea, and should not be opened until their points reach the ciliary margin, or that part of the iris which it is intended to seize; the points should then be pressed gently against the iris, and the blades closed by the thumb and index, and they cannot fail to seize the iris and hold it with sufficient firmness for the completion of the operation.

Magnified view to show the form of the teeth and their direction.



I may mention that I made this forceps myself, but would advise that the blades, from the angle to their junction, should be made a little longer, and rough on the sides where they are held between the thumb and index.

CASE I.—*Leucoma, with contracted and adherent pupil; formation of artificial pupil by detachment of the iris from the ciliary ligament (Iridodialysis).*

Thomas Fortune, æt. 28, had been a patient in the Toronto hospital for many months, having been admitted (as I was informed), on account of acute ophthalmia, by which the cornea of the left eye was rendered almost wholly opaque, and the cornea of the right eye also opaque, except a small portion of it at the upper part. The

pupil of the right eye was contracted and adherent, it did not dilate under the use of belladonna, at least at the upper part, where the pupil, if dilated, would have been seen.

The patient having lived for some time on low diet, and his health good, I operated for artificial pupil on the right eye, the beginning of February, 1844. I divided, with Beer's cataract knife, the cornea, opening the anterior chamber through the leucoma a little below the upper half of the cornea, the direction of the incision being horizontal. I then passed the forceps through the wound in the cornea, seized the iris near the ciliary ligament, and detached it at its upper part, making a large pupil. The iris appeared to be slightly lacerated, as well as detached from the ciliary ligament, for I drew a mere shred of it through the wound in the cornea; but I pressed back the iris into the anterior chamber, so as not to separate the cut surfaces of the cornea. Lint dipped in cold water was frequently applied to the eye, and the patient was bled, and took calomel and opium, not on account of acute inflammation, but on account of symptoms threatening it, i. e. a little pain and heat in the eye. The blood effused into the anterior chamber by detaching the iris was absorbed in less than a week, and the artificial pupil became of a clear bright black, and of the following form:—



Vision, however, was not good for some weeks after the operation, but it gradually improved so much that he was able to maintain himself by his labour: before the operation he could only distinguish light from darkness. I saw the patient between two and three months after the operation, and the pupil and vision remained the same.

CASE II.—*Central leucoma of the right eye, the pupil elongated towards the temple by a previous operation for artificial pupil (as the patient informed me)—Formation of a tificial pupil by detaching the iris from the upper part of the ligamentum ciliare, and by excision of some of the detached portion of the iris (Iridectomediolysis).*

Peter Devlin, æt. 41, was admitted

into the Toronto Hospital, under my care, May 18, 1844. He saw objects very indistinctly with the right eye, the rays of light being obstructed by the central opacity of the cornea, through which, however, the outline of the pupil could just be discerned. With the left eye he saw better, though very indifferently, the pupil being much contracted and adherent. He was placed on low diet for two or three weeks, and took aperient medicine previous to the operation, which I performed on the 8th of June, 1844, by making a small horizontal incision in the cornea, through the leucoma, a little below the upper half of this membrane, and so opening the anterior chamber. I then passed the forceps, which I had constructed for the purpose, into the anterior chamber, and seized the iris near the upper part of the ciliary ligament, from which it was immediately separated by very gradual traction, and blood filled the anterior chamber; but as I drew a portion of the iris through the wound in the cornea, the patient jerked his head, and it appeared to me that half the circumference of the iris was detached. I cut off a portion of the iris with scissors, and with the scoop pressed back the remainder of this membrane into the anterior chamber, so that the cut surfaces of the cornea might lie in contact. The patient said that the operation caused but little pain. Lint dipped in iced water was constantly applied over the eye. The patient was bled, and took a little calomel and opium by way of precaution, there being, about 24 hours after the operation, a sensation of fulness in the eye, and a very slight degree of uneasiness and heat. No inflammation followed.

I examined the eye four days after the operation: the wound in the cornea had healed perfectly; the blood had been absorbed; the iris was detached to about one-half, and the vessels of the conjunctiva were very slightly injected. There still remained at times a little heat about the eye; the cold water was therefore occasionally applied.

Ten days after the operation the patient said that he could see better than he had been able to see for the last twelve or thirteen years. I obtained for him a pair of cataract spectacles, and the right glass being dark-

ened, except a small portion opposite the artificial pupil, he was enabled by them to read large print, and, he said, to sharpen the teeth of his saw, and very well to earn his livelihood. Notwithstanding the large portion of iris detached, only a very strong light caused any uneasiness in the eye.



State of the iris after the first operation and before the second, the artificial as well as the natural pupil being covered by a not very dense leucoma.



State of the iris after the second operation; all that part between the dotted line and the outer circle being the artificial pupil, the natural pupil being covered by the leucoma.

ON THE TREATMENT OF STRICTURE OF THE URETHRA BY HYDRAULIC DILATATION.

By JOHN GOODMAN, M.R.C.S.L.

AN individual applied to me a few days ago from the country with complete retention of urine owing to a stricture just in front of the bulb of the urethra, from which he had suffered for a considerable period. About two months before, an instrument had been passed by a surgeon in the country with considerable difficulty, which he stated to be about the size of a small catgut bougie, and he had since that time totally neglected all remedial measures, and had usually micturated in a twisted stream, about the size of a small crow-quill.

On the day of application for relief, he had been taking some beer, to which he attributed the closure of the passage, and had been unable to pass a drop of urine from an early hour in the morning. The bladder being now uncomfortably full, and a constant desire to micturate, with a good deal of pain, being present, I attempted to pass the most appropriate bougies and catheters of various diameters, but failed in every attempt, and could not enable the patient to evacuate the smallest quantity of urine. What was to be done? The individual was very urgent,

was on his way to Dublin, in much pain, and exceedingly desirous to be relieved before his departure.

In this emergency (one by no means uncommon) the forcible application of a warm water injection suggested itself. There was the soothing and spasm-subduing quality of the warm fluid, the probable insinuating and permeative quality of a steadily increasing column adapted for every condition, form, size, and situation of stricture, and there was also the gradually and slowly dilative power of hydraulic pressure, which, if sufficient force could be employed to enable it to perforate the contracted portion of the urethra without rupturing any of its walls, might be brought to bear with any amount of force which can be required.

With regard to the capability of perforation in an already formed channel, however reduced in size, the difficulty seemed to vanish when I remembered having heard it stated that aqueous fluid can be forced through even the pores of iron itself when under immense pressure. It was also borne in mind that this method of removing obstructions (although of a very different kind), and of effecting a passage, is employed in all the other outlets of the human body—for instance, the ductus lachrymalis, meatus auditorius externus, Eustachian tube, &c. &c. Although the fluid employed in the last named is not exactly the same, yet the force is obtained by the same instrument.

After introducing a gum catheter as far as the stricture, where it was well secured by a band of tape, and a compress upon the penis to prevent escape, a syringe of warm water was injected with some force, and was found to flow with tolerable ease. The patient exclaimed "It passes!" On removing the apparatus, the patient micturated immediately in a stream about the size of a crow-quill.

After some persuasion, rendered necessary partly by the satisfaction ensuing from being able to micturate, and partly from the slight pain endured during the injection, the apparatus was again connected as before. After this injection, which flowed still more readily, and the removal of the instrument and bandage, the stream was now found to be considerably augmented;

a pint of urine was passed in a very short time, and the patient went away completely relieved and well satisfied.

A question might arise, that if watery fluid is so capable of permeating and dilating the stricture, why does not the urine itself, with all the efforts made use of by the patient for emptying the bladder, produce the effect desired as readily as it can be accomplished by external means of the same nature?

To answer this question, the muscular power of the bladder was tested in the following manner. A tube filled with water, to which was previously joined a smaller one of glass containing mercury, and so arranged as to exhibit the rise of the mercury in ratio with the existing pressure, was placed in communication with the urethra of a healthy individual, and secured by bandage and compress as before. He was then desired to make his most strenuous efforts to pass water. On so doing, the mercury in the small tube was found to rise only to the height of four to five inches,—showing that the contractile force of the muscular coat of the bladder, aided by the abdominal muscles, is only equal to a column of water of four or five feet. This small column, when compared with effects capable of being produced by hand in the common lifting pump, the fire-engine, and more especially by the hydraulic press, readily evince a good reason why an attempt might be made to force a passage through an obstruction which the muscular power of the bladder was incapable of effecting.

With such propitious results on the first trial of this method, I anticipate the relief of patients at all times under like circumstances; and even perhaps in those extreme cases where perforation of the bladder might otherwise be suggested, as well as in cases of spasmodic stricture.

And it may not be improbable that the cure of stricture itself may be somewhat facilitated by the employment of this remedial agent, unless it be found that the power of dilatation by the syringe is reduced considerably when free communication is established with the feeble walls of the bladder.

It is not improbable that in practice the injection from the extremity of the catheter may be found to serve the

twofold purpose also of directing and introducing as well as dilating the orifice of the stricture for the passage of the catheter itself during the flow of the injection.

Broughton, Manchester,
March 6th, 1847.

ON THE USE OF
ETHER IN TIC DOLOREUX.

By R. H. ALLNATT, M.D. F.S.A.

IN the present state of excitement, caused by the successful application of a new and splendid discovery to the assuaging of human suffering under its most terrible aspects, it could not well be supposed that disorders involving the sentient structures would be permitted to escape the ordeal of experiment.

In the last number of the *MEDICAL GAZETTE*, there is a case, by Mr. John Morgan, of tic douloureux, treated by inhalation; and as it stands upon the record, bearing the stamp of a faithful report, we may receive it, I conceive, as a good example of the benefit likely to accrue from this agent in analogous disorders.

The patient, a plethoric old man, of 72, had been subject to facial neuralgia for 18 years; a state of great mental excitement existed, and a tendency to cerebral congestion. The muscles of the head and neck, during a paroxysm, were thrown into violent spasmodic action, and the vessels became much distended with blood. I regret we have not a seriatim detail of the treatment adopted in the case, but we catch a glimpse of it, as it appears by the report that "the usual remedies had been resorted to by way of medicine and external applications:" and amongst these, of course, appear "quinine, belladonna, and aconite."

Now, I will suppose, in the absence of specific data, that the accustomed routine had been pursued, and that the opiates had been alternated, or exhibited conjunctively with iron, in its manifold shapes and modes of preparation, and quinine; for I defy any human being to imagine, in the present day, the "usual remedies," without labouring under a moral conviction, amount-

ing almost to certainty, that these must have played a conspicuous part.

A case of my own, of recent occurrence, will elucidate the value of this treatment. An old general officer, who had been campaigning from early life, was at length driven into domestic retirement from tic douloureux, arising from cerebral excitement. He had been steeled and narcotised until his mental and physical energies were laid prostrate, and his existence became a burthen. At the first consultation, the hero who, for fifty years, had braved the terrors of the battle-field, quailed before his adversary like an infant. The saliva literally poured from his mouth, and the pain was incessant and unendurable. Instead of his accustomed opiate, I prescribed an active purge, and in lieu of iron he was placed under a course of ioduret of potassium: in a few days he felt relieved, and in about a fortnight he went into the country in comparative ease.

Mr. Morgan's report extends from Feb. 28th to March 2d, during which time the inhalation was carried on daily; and the last paragraph, which contains the sum and substance of the result, states that "he has had two or three rather sharp paroxysms during the day, but these he is never without. His friends consider that the pain does not occur *more frequently* than at ordinary times, and that the recent aggravation of the malady has been quite relieved by the ether." This negative kind of testimony leads only to the conclusion that the disorder has not been aggravated.

I would strongly advise medical practitioners not to be drawn from their propriety by the charms of this novel agent. The effects of ether, like other powerful narcotics, may blunt and deaden the sensibility for a season, and thus produce transient alleviation, but they cannot by possibility *eradicate* the malady; and I think we may safely predict that the returning power of the sentient nerves will bring with it a recurrence also of the morbid excitement.

7, Suffolk Place, Pall Mall, East,
March 12th, 1847.

MEDICAL GAZETTE.

FRIDAY, MARCH 19, 1847.

WHILE, on this side of the Channel, there appears to be no prospect of the great question of Medical Reform coming before the Houses of Parliament during the present session, the subject has already seriously engaged the attention of the French government; and a sketch of the principles on which medical legislation should proceed, has been recently presented to the Chamber of Peers by the Minister of the Interior. The medical profession in France has been for many years in a disorganised condition. At a period anterior to the revolution of 1792, there were in that country, eighteen different Faculties of Medicine, among which those of Paris, Montpellier, Toulouse, Besançon, Rennes, Caen, and Perpignan, had acquired great celebrity; and in addition to these, there were fifteen colleges or medical corporations. The whole of these Faculties and Colleges, with all other civil and municipal institutions, were swept away at the outbreak of the revolution; and eleven years afterwards (1803) Fourcroy thus described the state of the profession:—

“Since the suppression of the Universities and Medical Colleges, there has been no regular system in the admission of individuals to the practice of medicine and surgery. The old plan has been replaced by the most complete anarchy. Those practitioners who have studied their profession, are not to be distinguished from those who are pretenders: and the lives of the public are in the hands of men, who are as avaricious as they are ignorant. The most disgraceful

charlatanry exists on every side. No test of knowledge or skill is required. Town and country are alike infested with quacks who deal in poison and death, with an audacity which no law now in force can repress. The sound principles of the obstetric art are abandoned for the most murderous system of practice. Impostors of the worst description have assumed the title of *Officiers de Santé*; and quack medicines have increased to a greater extent than at any period since the suppression of the Medical Faculties. So extensive and palpable is the evil, that the civil officers of many large towns have taken upon themselves to appoint Boards for the purpose of examining those who proposed practising medicine within their jurisdiction;—a plan likely to cause mischief, by leading to the legal recognition of the really incompetent, and possibly to the rejection of some who may be well qualified to practise.”

These evils were to a certain extent checked by the reconstruction of Schools of Medicine. A selection of the most experienced men was made; and in order to provide funds for the new institutions, the payment of certain fees was required from those who proposed to become doctors of medicine. The candidates for the diploma were required to pass four years in the study of their profession, and to undergo five examinations, of which two were to be in Latin: yet, strangely enough, no preliminary education of a literary or scientific character was demanded of them. In order to meet the immediate wants of the public, another and an inferior order of practitioners was created, under the name of *Officiers de Santé*. The candidate was admitted to this low grade, when he had lived (not studied) for six years with a doctor of medicine, or had attended

five years in a hospital, and had undergone two examinations before a *provincial jury*. A fee of eight pounds was required to be paid for the diploma. The inferiority of these practitioners was so far recognised by law, that they were only permitted to practise in the province from which they had received their license; and they were forbidden to perform any of the great surgical operations. It would appear, however, that these rules have been rarely enforced.

The medical profession in France has therefore consisted, since 1803, of two orders of practitioners—the doctors of medicine, corresponding to our two classes of physicians and surgeons, and the *officiers de santé*, to whom we have no corresponding class. The legal recognition of these uneducated persons as *quasi* medical practitioners, has been the fruitful source of evil, and has led to the degradation of the profession in France. Many of them, it is true, have acquired by long experience that knowledge which they should have possessed before they were licensed to practise, but this has only tended to increase the evil, by leading the public to confound the two classes, to the inevitable ruin of the more highly educated. The error of the law consisted, first, in continuing to recognize such an ignorant order of practitioners after the necessity for their admission had ceased; and secondly, in not placing such strong restrictions upon their practice, as to prevent the public from confounding them with the really educated. The transition from the *officier de santé* to the downright quack was thus rendered imperceptible; and the title sufficed to give to the empiric a legal right to practise. In England, while we have not the legally recognized but ignorant *officier de santé*, we have around us hundreds of ignorant

illegal practitioners who thrive upon the credulity of the public. Both systems are bad, whether we regard the maintenance of an honourable profession, or the safety of human life; and it is with some satisfaction that we find a disposition on the part of the French government to correct those abuses which have arisen equally in both countries from the long continued neglect of the legislature. In giving a brief account of the principles upon which the French government is about to proceed in reorganizing the medical profession, we do not mean to contend that the same kind of reform would be exactly suited to the conditions of English practice or to English usages; but we believe that our legislators might derive some useful hints from the plan which appears to have been drawn up by the French minister, irrespective of local and conflicting interests.

The great obstacles which have hitherto presented themselves to medical legislation in this country, have arisen from the difficulty of defining the privileges of each class of licensed practitioners,—of suppressing by summary proceedings the class of unlicensed practitioners,—of preventing the assumption of false titles,—of placing restrictions on the dispensing of medicines, and of defining those acts which should disqualify persons from practising medicine. As a singular illustration of the different spirit which characterizes the legislation of the two countries, it may be well to contrast the French Medical Reform Bill with those cumbrous measures which were brought during the last session before the English House of Commons.

ART. I. *Registration and definition of practitioners—Punishment for illegal practice.*—No person will henceforth be permitted to practise medicine in France unless he has a regular diploma

of Doctor of Medicine, and has registered the same both with the secretary of the Academy and in a Government office. No person can receive the degree of doctor of medicine until he has been admitted a bachelor of letters or of arts, and has gone through the course of study prescribed by the law. Every French graduate who has received the diploma of doctor from a French faculty, and has duly registered his name, may practise freely in all parts of the kingdom, and he is at liberty to take the title of physician or surgeon at his option. Whosoever shall assume either of these titles, or call himself "doctor," without having acquired the title in a regular and lawful manner, shall be summarily punished by an imprisonment of from six months to two years. A repetition of the offence shall be followed by a punishment of from two to five years.

ART. 2. Rights and privileges of foreign graduates.—No foreign graduate, whether he be a Frenchman or a foreigner, will be henceforth permitted to practise in France, except by the license of the Crown, to be granted on proof of equal value in the foreign degree and diploma, as determined by the Royal Council of the University; the said diploma to be registered according to the provisions of Art. 1. With respect to foreigners, this permission to practise may be at any time withdrawn; and it may be restricted to practice in one particular district, or among the countrymen of the practitioner. He who holds a foreign diploma must call himself by his foreign title—Doctor of the University of ———, and physician, or surgeon (*étranger*). A foreigner who in his own country has gone through a course of study which may appear satisfactory to the Royal Council of the University, will be permitted to graduate in France, and to exercise, upon similar conditions, all the rights and privileges of French

graduates. The same rules will apply to Frenchmen who have studied in foreign countries. The practice of medicine, or of any of its branches, contrary to the provisions of this article, shall be punished by imprisonment, as mentioned under Art. 1.

ART. 3. The *Officiers de Santé* who have been regularly admitted according to the law of the 10th March, 1803, may continue to practise medicine according to the terms of the commission granted to them. If they assume any other title, they will be liable to imprisonment according to the terms of the previous articles.

There are four other articles relating to the practice of medicine. We must reserve our remarks on these for another occasion. In the meantime our readers will perceive that the first article of the French law comprises in a few words, and in intelligible language, all those changes which have given rise to so much fruitless discussion in this country. It recognises the necessity for registration, for the restriction of medical practice to an educated class of men, and for the summary punishment of illegal practitioners.

Rebizza.

Practical Observations on some of the Diseases of the Stomach and Alimentary Canal. By JAMES ALDERSON, M.D. F.R.S., late Senior Physician to the Hull General Infirmary, &c. 8vo. pp. 215. Longman and Co. London. 1847.

THE immense variety of treatises and essays on functional and organic diseases of the digestive apparatus which now crowd the shelves of our medical libraries, would appear to leave but little opportunity for the enunciation of perfectly new facts on these subjects by observers of the present day. Still, we have read Dr. Alderson's *Observations* with considerable interest, as they bear throughout the stamp of actual

observation, and as they afford some useful hints on the diagnosis of various forms of gastric disease. The work is entirely founded on Dr. Alderson's own observation; and for the purpose of keeping it in a concise and convenient form, the author has avoided making it a compendium. The facts are well and clearly stated, and the entire detail is interesting and readable. Eight out of the seventeen chapters of which this treatise is composed have reference to malignant disease of the stomach: this is not only the longest, but also the most important part of the book, and we shall therefore furnish our readers with a few of the author's remarks on this subject.

In commenting upon malignant disease of the œsophagus and cardiac orifice of the stomach, Dr. Alderson observes, that in all the cases of this kind which he has had to treat the liver has never been the subject of secondary deposit of encephaloid matter. On the contrary, in cases of carcinoma of the larger curvature of the stomach, "there is always deposit of encephaloid tubera in the liver." This deposit is also found in cases of ulcerated carcinoma of the pylorus, as well as in cases of carcinomatous deposit beneath the serous covering of the stomach, and in the pancreas. As far as the author's own observation goes, the extension of malignant disease of the cardia is always downwards into the cardiac extremity of the stomach. He appears to consider that the tendency of areolar carcinoma affecting the upper part of the œsophagus is always to extend into the trachea; but we are not convinced that this result invariably occurs. The author has observed, that in cases of carcinoma of the pylorus "the gall bladder is almost always found to contain gall-stones; and he has remarked, that patients who have been the subjects of this disease have previously suffered from attacks of gall-stone. The gall-stone generally consists almost wholly of cholesterine."

The author's account of the history and symptoms of the various forms of malignant structure to which the œsophagus and orifices of the stomach are liable, are, upon the whole, explicit and satisfactory. The following are a few of the leading facts which he has adduced:—

In the scirrhus form of œsophageal

disease, where the stricture is situated high up in the tube, pain will generally point out the true situation of the deposit; the great difficulty in swallowing, and the sense of suffocation in making the attempt, the immediate vomiting succeeding the act of swallowing, a peculiar pouching of the œsophagus, which is caused by the effort of the patient to swallow a larger quantity of food than the œsophagus, in its natural state, can contain, the speedy return of the food which is attempted to be swallowed, and the extreme emaciation which takes place before death, are the distinctive characteristics which mark the scirrhus form of the disease.

In areolar carcinoma of the œsophagus pain and difficulty are always experienced in swallowing; but vomiting is not a necessary symptom. Food can be passed into the stomach, and when there, can generally be digested without vomiting being excited; hence, that extreme emaciation which distinguishes the simple carcinoma, or scirrhus of the œsophagus, does not take place. The extension of the disease into the trachea brings on a sense of suffocation whenever the patient attempts to swallow—a spasmodic dysphagia, from the effects of which, after a struggle, all that has been taken is rejected. The author is not by any means disposed to advocate the employment of the probang, or bougie, in the diagnosis of œsophageal disease, but we should have been glad to see that he had alluded to the danger of employing such instruments in cases where it was doubtful whether the obstruction depended upon stricture of the tube, or narrowing of its passage in consequence of the pressure of an aortic aneurism: in all cases of the latter description, the introduction of an instrument is fraught with the greatest hazard to the patient's life, as it occasionally happens that, for some time previously to the occurrence of hæmorrhage, the ulcerated opening in the œsophagus remains closed only by layers of tough coagula, which could scarcely fail to be displaced by the application of very slight force. In fact, the diagnosis between malignant and other obstructive diseases of the œsophagus has been almost entirely overlooked by the author.

In cases of simple carcinoma (scir-

thus), of the cardiac orifice of the stomach, it is in vain to seek evidence of its presence by means of examination by the hand; but when the disease is of the areolar form, deposit takes place in much larger quantity than in the scirrhus form. The mass is greater, and it usually extends into the cardiac extremity of the stomach, where it freely ulcerates. In this case a careful examination by the hand seldom fails to detect a tumor, which can be felt at the pit of the stomach, though its limits cannot be readily defined. Here, on pressure being made with the hand, great pain is experienced, although the examination be most carefully conducted. In either form of disease of the cardiac orifice, the food is usually rejected immediately after it is taken; but in the areolar carcinoma we find that nourishment can sometimes be passed into the stomach, and sometimes it cannot: this the author ascribes to variations in the degree of sensibility of the diseased surfaces, as well as to the occasional sloughing and separation of portions of the obstructing mass. In the earlier stage and progress of the disease, vomiting (regurgitation?) does not occur invariably after taking food, but it is never absent during many days together, the interval gradually diminishing as the disease advances. The author believes there is no instance where fat has been found in the parietes of the abdomen after death from true scirrhus of the cardiac orifice of the stomach, and hence emaciation with the other symptoms is conclusive of the fatal character of the disease. In this, as in malignant disease of the pylorus, the tongue is almost always clean, until when, in the latter stages, aphthæ point out the approach to a fatal termination: the bowels act but scantily, as might be expected from the small quantity of food received, but diarrhœa often attends the close of life. In the cardiac stricture, and in that of the œsophagus, the cravings of the appetite are fearfully distressing, hunger is experienced in the extreme; the stomach and organs of digestion are ready to perform their proper functions, yet there is no possibility of introducing food beyond the strictured point. In pyloric disease, on the contrary, the stomach is able to receive nutriment, and digestion is carried on, *at least to a certain extent; the calls of*

hunger are supplied; and though, after the lapse of two or three hours, the pulaceous mass will in all probability be rejected, still some portion of nourishment will have been extracted from it. The author mentions that when the situation of carcinoma is at the pylorus, and when vomiting is absent, which it, however, rarely is, great accumulation takes place. He has seen a case where vomiting was suspended for fourteen days, and nearly all of the ingesta remained during the whole of this time in the stomach: a large wash-hand basinful was at length vomited at once. The stomach was to be felt, in this case, as a large fluctuating bag in the abdomen. The areolar form of the disease, which is that most commonly met with at the pylorus, is generally marked by a well-defined resisting tumor, which may be detected some months before the fatal issue. Pyloric disease, at its onset, is usually marked by symptoms of dyspepsia, which are urgent and distressing, and do not yield to the remedies which are found to avail in functional disorders of the stomach. These will have been present for about two years before the disease approaches to a crisis. In the latter year the change to the true cancerous complexion marks the uncontrolled advance of structural disease. With a few exceptions, pain, which is aggravated by touch or pressure, is experienced in the region of the stomach; but occasionally, though rarely, pain is absent. Jaundice sometimes accompanies this situation of carcinoma. It arises as a consequence of the extension of irritation along the duodenum to the outlets of the gall ducts, and it might also have been added, occasionally from mechanical obstruction of the ducts from external pressure. The secretion from the kidneys is often clear, and copious, and natural, until the latter stages. The body is generally emaciated, but not always extremely so.

Carcinoma is always of the areolar form when it occurs in the larger curvature of the stomach. It is attended by symptoms of dyspepsia in an aggravated form, by vomiting at variable periods after taking food, by the escape of foetid air from the stomach, and usually by great pain at the scrobiculus cordis, which is increased by the slightest pressure. There is a sense of

great debility; the state of the bowels varies in different cases, but they are usually confined. In some few cases vomiting does not occur, and frequently, in the latter stages of the complaint, it is superseded by "sour risings," by fœtid "mouthfuls" which are brought up from the stomach. When the disease is confined to the larger curvature of the stomach, and there is no opposition at the pylorus to its passage out, the stomach, notwithstanding, finds difficulty in getting rid of the half-digested mass—for, though the pylorus is in no degree obstructed, there is a defective power in the coats of the stomach to contract upon their contents. On examination by the touch, tumor can always be detected, which, as the disease advances, increases in size, and becomes less definite in form. Among the earliest symptoms of carcinomatous disease occurring upon the exterior of the stomach, unsatisfactory relief from the bowels is the most prominent. It is experienced for a year or more before the more urgent symptoms set in, and is accompanied at intervals by nausea, retchings, and headache. Pain is also suffered, but not to any great extent, and is referred by the patient to an unremoved accumulation in the bowels: it is described as situated at the pit of the stomach, or rather lower. The patient subsequently begins to lose flesh, the features shrink, the complexion becomes opaque, sallow, and exsanguineous; the eye looks sunken, and the strength begins to fail. At this period the tongue is tolerably clean, but not in the peculiar degree met with in carcinoma of the interior of the stomach; the pulse is inclined to be weak and frequent; there is often morbid appetite, and considerable thirst; sometimes a degree of voracity for food, whether solid or liquid. The accumulation in the colon really exists, and is with difficulty dislodged. Pyrosis often supervenes, with the peculiar drawing in of the abdomen to the spine. Within three or four months of a fatal termination, there is generally to be felt an unusual fulness a little to the right of the pit of the stomach; it is hardly to be felt as a tumor, but as an undefined resisting mass, and it appears to rest on the spine: pressure by the hand causes pain. At this time emaciation and debility increase; the

appetite fails entirely; there are vomitings and retchings: the nights are restless, attended with pain. Hiccup is a very distressing symptom, and increases both in violence and in duration of the fit as the disease advances. The tongue shows a tendency to aphthæ, which also generally increase. Local irritation of the skin, as erythema and erysipelas in the lower extremities, sometimes appears; and, whilst these are present, there seems to be some little remission of the other symptoms. Diarrhœa of severe character sets in at intervals; jaundice, with all the symptoms attendant upon it, often supervenes about this stage of the disease. In the absence of jaundice, the urine is often copious and natural. In some cases there is great dyspnœa. Among the latest symptoms are—disgust for food of all sorts, an extraordinary sense of sinking, the action of the bowels is followed by an extreme state of exhaustion, accompanied by profuse perspiration; the patient continues to lose flesh, and his complexion becomes perfectly exsanguineous. Evening fever now comes on; the pulse is quick, ranging much above 100; there is vomiting of dark coffee-coloured fluid, or even of blood, or hæmorrhage takes place from the bowels. A shivering fit and delirium also occur in the latter stages. Even till the latest period of the disease there are occasionally short intervals of rallying, but these periods of hope are soon superseded by the more urgent symptoms, and the depression and exhaustion are then extreme.

The remarks on malignant stricture of the colon are not so ample as could be expected from the importance and frequency of the disease. The author refers to a case in which malignant ulceration occurred in the sigmoid flexure of the colon, in which lymph was poured out, and a union with the bladder took place, permitting the contents of the bowel to pass through the bladder, and the urine in turn to irritate the rectum. Several cases of this kind are upon record, and the malignant stricture of the lower part of the sigmoid flexure is a disease which the practitioner must be prepared to meet with and to diagnosticate in cases of insuperable constipation occurring in persons beyond the middle age.

The author's remarks on Hyper-

trophy of the Stomach are well deserving of careful perusal. His observations on Functional Derangement of the Stomach are judicious, but are scarcely so extended as the amplitude of the subject requires. Upon the whole, however, this record of Dr. Alderson's observations does great credit to his judgment and powers of investigation; and we trust that the condensed, abstract which we have given of his remarks upon the diagnosis of the various forms of malignant disease of the stomach will induce our readers to devote a few hours to the perusal of the entire work.

On Diseases of the Skin. By ERASMUS WILSON, F.R.S. &c. 2d Edition. 8vo. pp. 492. Churchill: London. 1847.

THE first edition of Mr. Wilson's treatise gained a very favourable reception from the profession as a carefully-written and practical work founded upon the now generally received doctrines with reference to the physiology of the skin and its appendages, and as presenting the diseased conditions of those structures under an accurate and well-arranged natural classification. The present edition contains a considerable number of additional facts; among others, an abstract of a paper read by the author before the Royal Society in 1845, on the "Development and Growth of the Epiderma," which contains some observations on the structure and formation of the epidermal cell. Mr. Wilson remarks—

I found the perfect cell to be composed of secondary and tertiary cells, and the essential and primary constituent of these cells to be granules of extreme minuteness." The author regards these observations as important, as they demonstrate the theory of the development of a cell advanced by Schwann to be inapplicable to the cells of the epiderma and epithelium. "I next found that these minute granules were the agents of colouration of the skin, and that they were in reality the pigment; the difference in their tint giving rise to all the known diversities met with in the rete mucosum, the nails and the hairs. Further examination proved that the pigment of the choroid membrane of the eyeball, and that of melanosis, were composed of identical organisms. With a view to apply these observations of normal structure to the morbid anatomy of

the skin, I made a careful examination of the epidermal cells of the scales of lepra; and found the primitive granules of the latter to be abnormally formed; they were evidently in a state of hypertrophy from imperfect nutrition" [which we take to be a perfectly novel condition]. "I have not had an opportunity of proceeding further with this inquiry, but I intend to pursue it whenever I shall have leisure to devote to its prosecution."

The author has also devoted considerable attention to the structure of the hair. He observes:—

"It is interesting to find the minute structure of the hair to harmonise completely with its analogue the epiderma; being composed of the same primitive granules, and differing only in their arrangement, as being subservient to a different end. In the hair these granules are arranged in such regular order as to have the appearance of parallel fibres, and their diversity of tint gives rise to the colour of the hair" [?]. "Under the influence of disease, the hair is liable to a change which may be compared to the alteration of the epiderma which takes place in lepra; that is, it becomes lax in texture, brittle, twisted, and loses its natural colour. The disease of which this morbid change is a symptom is the common 'ring-worm.' Now, the examination of the hair in ring-worm exhibits its primitive granules morbidly enlarged like those of the epidermal cells in lepra; both diseases are, in fact, a granular degeneration of the cells of which the epidermal product is composed."

Mr. Wilson has made some interesting observations on the nature of scabies. He expresses himself on this subject as follows:—

"I am thoroughly convinced, and, so long as I possess that conviction, shall ever continue to maintain, that the acarus is the sole and only cause of scabies, and that every eruption, however acuminated and well defined its vesicles, if it be deficient in the living cause, is not scabies."

He is therefore at issue with those authors who, while they acknowledge the existence of the acarus scabiei in itch, regard it as a complication, and not as the real cause of the disease; still describing scabies as a vesicular eruption, and accusing the blood and the system of taking a share in the affection. Whatever may be the true state of this contested question, we are certainly inclined to think that the condition of the system has much to do with the development of many forms of pedicular disease; as, in numerous in-

stances of these affections, the constitution evidently suffers more severely than it could be expected to do if the mere local irritation produced by the disease were alone in operation.

The author is opposed to the opinion, that the disease which has been termed by Willan "*Mollusum Contagiosum*,"—but which Mr. Wilson describes as a small tumor of the skin produced by the enlargement from impaction with altered sebaceous substance, of a sebiparous gland,—is in reality contagious. He refers to two papers by Dr. Henderson and Dr. Peterson, which have recently appeared in the 56th volume of the *Edinburgh Medical and Surgical Journal*, in the following remarks:—

"Both of these authors endeavour to perpetuate the opinion so long entertained, of the contagious nature of the disease. Dr. Henderson and Dr. Peterson inoculated the fluid expressed from the tumors unsuccessfully; had these gentlemen made the experiment by friction of the morbid fluid into part of the body richly supplied with sebiparous glands, they would have been equally unsuccessful, for *mollusum is not contagious*. Dr. Peterson regards the contents of the tumors as the real disease, and he ingeniously attributes to the development of cells from nuclear matrices, as in the instance of cancer, the production of the disorder. By means of the same hypothesis he explains the transmission of the disease by contagion; for one of these cytoblasts reaching a favourable nidus for development—*e. g.* the excretory duct of a sebiparous gland—speedily gives birth, by excentric genesis, to myriads of young cells, and a collection is produced which constitutes the molluscous tumor. But before this hypothesis can be admitted, that must be proved which is equally hypothetical—namely, the contagion of mollusum."

Mr. Wilson's remarks on this subject contained in the body of the work are interesting and elaborate, but the cases which he cites from other authors, and from his own observation, by no means convince us of the accuracy of his conclusion, that the disease is not contagious, or that the families in whom it occasionally presents itself are the subjects of a "*sebaceous constitution*."

The present volume is illustrated by neatly coloured engravings of the principal forms of cutaneous eruption; many of these, however, bear no very close resemblance to the morbid appearances which they are intended to display; and none of them are by any

means equal to the figures in the earlier editions of Willan and Bateman.

Mr. Wilson's treatise is one of considerable interest and value, and we can cordially recommend it to those of our readers who are either upon the point of commencing the study of skin diseases, or who have for some years past neglected to keep pace with the advance of this department of pathology.

Proceedings of Societies.

SOUTH LONDON MEDICAL SOCIETY.

March, 4, 1847.

CHAS. WATERWORTH, Esq., President, in the Chair.

Dr. BARLOW read the following cases of thoracic disease:—A man, *æt.* 35, of healthy family, formerly unsteady in his habits, and having suffered attacks of hæmoptysis for the last seven winters, but in intervals healthy until few weeks back, when he became poorly and unfit for work. Nine days before being seen he had a pain in the right side, and took medicine, but as the pain increased, and was accompanied with dyspnoea and cough, he was bled and blistered; three days previous to admission into hospital, a sense of constriction and oppression was complained of over the region of the heart, with tumultuous fluttering of that organ; his feebleness increasing without amelioration of other symptoms: when seen his countenance was dark, his eyes sunken, tongue white, cold perspiration on the face with anxious expression, night delirium, sore mouth without fetor. The right side of the chest was dull from the mamma downwards, and laterally at the apex resonant, with bronchial r  le and tintement metallique; no vesicular murmur or tubular breathing downwards to the side or base; a creak, as from the bronchial tube, existed in the other lung; posteriorly, tubular breathing was heard between the base of the scapula and spine, and the tintement above it; lower down all was a blank. On the left side bronchial r  les and mucoid crepitation were heard from the base to the apex, this side was tolerably resonant; heart not displaced. A rough grating to and fro sound existed at the cardiac region, loudest over the aortic valves; some indistinct sounds about the mitral valve; action of the heart was tumultuous; pulse small, thready, 120; respiration 44. A blister was ordered to the region of the heart, squill and blue pill with a little opium, ammonia in small doses

with diuretics, and beef-tea. On the following day he became worse, and sixteen ounces of ill smelling pus were let out by paracentesis, but he continued to sink and died shortly after. On examination, the chief morbid appearances were as follows:—on raising the sternum, the mediastinum was seen slightly pushed to the left side, and on cutting into the right pleura a dreadful stench issued out, and a pint of filthy pus was found in this cavity, which was lined with lymph. After injection of the lung, which was slightly collapsed, by air and water, no perforation could be found; its structure was quite healthy. The left lung exhibited signs of bronchitis and dilated air-tubes. The pericardium contained a little fluid, with much coagulable lymph, and was lined with false membrane; the false membrane, which covered the whole surface of the heart, presented the rough appearance of a neat's tongue, with mamillary processes which were hard like a file; between the attachment of the pericardium and diaphragm was found a large depot of strumous caseous matter. The kidneys and liver were gorged, the cæcum ulcerated. The second case mentioned was that of a lad who, after sudden exertion, complained of pain on inspiration, dyspnoea, and febrile excitement, and presented signs of pleuritis with effusion on the left side; two days afterwards there was evidence of air being also present, which led to an unfavourable prognosis: the symptoms occasionally received temporary relief, but the dyspnoea increased; the right lung appeared sound. Blisters and a diuretic treatment were ordered, and slight pyæmia produced. About a month after this he appeared moribund from suffocation caused by the rapid increase of the fluid, and as pointing was evident between the 5th and 6th ribs, anterior to their angles, an incision was made through the integuments, and more than two pints of exceedingly foetid pus let out, with relief of symptoms. Blisters, support, medicines calculated to soothe the cough, and iodide of potassium with diuretics, were ordered, and convalescence after a time took place: some time afterwards, both sides of the chest were found to be of equal capacity, the lungs were dilatable, and the heart had returned to its natural situation.

The author observed that the above two cases exhibited effusion into the pleura at different ages. His inducement to tap was not from the hope of setting free the diseased lung, but of taking off the pressure from the opposite apparently healthy lung. He believed another circumstance expediting death in the first case was the pericarditis, which was probably an extension of the inflammation of the pleura.

The author then related two cases of

pleuritic effusion in which an operation was not resorted to. One of them was a female, æt. 40, attacked with acute thoracic inflammation, attended with pain in the side, dyspnoea, sharp quick pulse, and she was treated by venæsection and calomel, opium, and antimony. On the day following the bleeding, when the author saw her, there evidently existed extensive effusion into the left pleura; oegophony and tubular breathing being present above, and below a perfect blank. Diuretics and blisters were ordered. The next day she was worse, evidently sinking, yet more from collapse than from suffocation; there was also lividity of countenance; the pleural effusion, however, had evidently decreased; an operation therefore was not considered called for; there was considerable power in moving about, but at night death took place suddenly. On examination, the abdominal viscera, with the exception of a coarse state of the kidneys, were found healthy. The lungs and heart gorged; universal pleurisy of the left side; three-fourths of a pint of fluid in the pleura, which was thickly covered with false membrane one-eighth of an inch thick: the same state, with less fluid, existed on the opposite side.

The fourth case was that of a boy now under treatment; there were the usual signs of extensive pleuritic effusion on the left side, originating apparently from a blow: under gentle mercurials, diuretics, and blistering, the effusion diminished, and the lung is now becoming pervious to air.

Dr. HUGHES considered that neither of these cases represented the actual value of paracentesis as a remedial measure: the first patient being evidently in a sinking state, the operation could only be viewed as a means of present relief. In the second case nature would have let out the purulent matter; independent of the presence of air in the pleura this was not an uncommon instance, as young and healthy persons usually recover where spontaneous relief of the effusion occurs, either by expectoration or external opening; the lung, however, does not become restored in such cases. As regarded the lad now in hospital, he agreed in the propriety of not tapping, as in a young subject absorption of the fluid may occur. He would inquire of the author if he was quite sure no opening existed in the first case, as he was not inclined to subscribe to the doctrine that air could be secreted in the pleura, although gas may be generated by decomposition of the pus.

Dr. BARLOW agreed that when spontaneous perforation took place in young people recovery may be looked for, but he could not regard it as a matter of indifference whether the opening took place externally or through the lung, for when the opening is external a permanent fistula may be formed.

As regards the case of the woman, he had not the slightest doubt of the diminution of the fluid, although perhaps its quantity might have been overestimated on account of the thickness of the false membrane. The danger in this case arose from the bronchitis rather than from the large effusion, but life was more especially threatened by the remarkable tendency to sinking, similar to that seen in the low form of peritonitis, and he rather ascribed this to the presence of inflammation on the pleural surface of the diaphragm, in which cases sudden death often took place; no perforation of the lung could be detected in the first case.

Dr. HUGHES remarked how unusual it was in phrenic pleurisy to find such freedom from severe symptoms, which were generally in such cases of a most agonising character: such freedom opposed the idea of acute inflammatory action.

Dr. MURPHY considered these cases to be analogous to the puerperal form of inflammation, which was often unattended with much pain. He did not believe that a serous membrane could secrete air, and was doubtful if it could secrete pus. Where gas is found in the peritoneal cavity a perforation always exists; the foetid odour does not exist unless air is present. He mentioned a case where an empyema was found to depend on a carious vertebra. He agreed with Sir B. Brodie that pus could not be absorbed, and he would therefore puncture in every case where he felt convinced that a purulent collection was present.

Dr. CHEVRS alluded to the unhealthy state of the kidneys in both the fatal cases, and considered that in the large proportion of instances where a low form of pleuritis occurred suddenly, with rapid effusion into the cavity and great depression of the vital powers, the disease was to be regarded as of constitutional rather than of local origin, and in such cases serious disease of some of the depurative viscera was to be feared: he believed that a diseased state of the kidneys, if its existence can be ascertained, strongly contraindicated the use of free bloodletting and mercurials. He agreed with Dr. Murphy that some of the most deadly forms of inflammation of the great serous cavities were characterised by entire absence of pain. He had seen instances of inflammation of the pleural surface of the diaphragm on one side unattended with marked symptoms of diaphragmitis, and he suggested that, where the disease occurred in the lowest form, diaphragmitis could scarcely be expected to present such severe symptoms as when it attacked persons of robust habit.

Dr. BARLOW observed, that no albumen was present in the urine of any of the patients, and, although the woman's kidneys were perhaps diseased, he almost regretted

that the mercurial treatment had not been more freely used.

Thanks were then given to the author, and the Society adjourned. At the next meeting, Thursday, March 18th, Mr. Sturton will read "A Case of Abscess of the Neck opening into the Aorta."

PATHOLOGICAL SOCIETY OF LONDON.

Monday, March 1, 1867.

Dr. WILLIAMS in the Chair.

MR. SANKEY exhibited a specimen of

Abscess of the Liver.

The patient, aged twenty-three, a female, was admitted into the Fever Hospital, under Dr. Tweedie, on the tenth day of her illness, which lasted altogether forty days. Faintness, vomiting, and shivering, ushered in the disease. The most prominent symptoms on admission were, gripping pain in the abdomen, coming on in paroxysms, from epigastrium to pubis, coated tongue, and thirst. She was bled, and put under the influence of the mercury, the factor of which was observed on the fourteenth day, and on the sixteenth the shivering returned, and did not leave her till the day of her death. On the twenty-first day vomiting of bilious matter came on, accompanied with tenderness over the region of the liver. Little or no alteration took place in the character of the symptoms from this period; there were daily repeated attacks of shivering, frequent bilious vomiting, a sallow skin but no jaundice, a red and fissured tongue. She sank on the fortieth day, worn out by the frequent vomiting. She died quite amiable. The post-mortem examination was made fifteen hours after death. The body was well-formed, and there was one inch and a half of fat in the anterior walls of the abdomen. The omentum had formed adhesions at its lower border to the adjacent surfaces of the uterus and the rectum, and in the space formed by these attachments was a cavity filled with pus; there were also several smaller purulent collections. The right iliac artery, along the head of the pelvis, was obliterated. The ovaries had also contracted adhesions with the omentum. The abscess above described communicated with the rectum by a fistulous opening in the anterior wall of the latter. The liver, which was pale and flabby, presented, on the upper convex surface of the right lobe, a circular elevation, an inch in diameter, and elevated half an inch. On making a section of the organ, through the centre of this elevation in an antero-posterior diameter, numerous small cavities were laid open; the largest,

corresponding with the elevation on the surface, was of sufficient magnitude to have contained a small walnut. The smaller cavities divided, were of irregular shape and size, all more or less connected with each other, so that the whole out surface presented a ragged appearance, being riddled, as it were, by a chain of cavities. The contents of these cavities were more or less alike in all: their walls were lined by a flocculent lymph, in some parts deeply tinged with bile. The centre of them was occupied by a strong fluid; in the smaller ones, of the colour of pus; but in the large cavity, resembling mucus, being of very tenacious character, and capable of being drawn out in strings.

Beneath the microscope the fluid from the large cavity presented a confused granular appearance, with numerous organic globules, of various diameters, having irregular margins, and the majority obscurely resembled pus globuli. Another portion of the less tenacious fluid exhibited pus globules of less equivocal appearance, but no positive conclusion could be drawn from even these. Imbedded in the slimy fluid were numerous seed-like bodies of a yellow colour: on placing these beneath the microscope, they exhibited acicular crystal, resembling cholesteroline.

The morbid products were distinctly found to occupy the track of the portal canals, and in many parts of the organ the disease was entirely confined to the portal vein, the artery and the duct being easily distinguishable and perfectly sound; in no part were the duct or artery the only vessels involved, but in many portions they were included in the common destruction. The stomach, which was healthy, contained a greenish fluid; the small intestines, a liquid pulaceous matter of a greenish-brown colour; the great intestines contained soft and pale faeces.

It appears to be probable that this serious pelvic abscess had existed for some time, and it is only curious that the peritoneal inflammation should have gone on so insidiously without producing more serious disorder; for she had enjoyed tolerable health for three months at least before she entered the hospital. It is, perhaps, difficult to fix the precise time when the disease of the liver occurred—that is, supposing it to have been subsequent to the pelvic mischief; the twenty-first day is the first day of bilious vomiting, but the frequent and distressing signs occurred much earlier.

It may be also somewhat interesting in a physiological point of view, to call attention to the large quantity of fat found after death. In many diseases a much shorter time than forty days is sufficient to produce the greatest

emaciation. That the use of the bile is to dissolve the fatty matter of the food, is not, therefore, corroborated by this case.

Mr. Busk exhibited a specimen of

Extensive Strumous Disease of the Kidneys, and Ulceration of the Bladder and Urethra.

The left kidney had undergone entire scrofulous degeneration, was much increased in size, no remains of the glandular structure being obvious; its surface was covered with granular matter. Left ureter was solid from the bladder to the pelvis, the solid matter which filled it not admitting of separation from the walls of the tube. The right kidney was much increased also in size, and weighed eleven ounces; the exterior studded with tubercular matter, which pervaded the structure of the organ. There was no solid matter in the right ureter, which was superficially ulcerated throughout its entire extent. The internal surface of the bladder was sloughy and gangrenous; there was effusion of acrofulous matter also in the cellular membrane external to the bladder; both the vesiculae seminales filled with tubercular matter, as also the left vas deferens; testicles healthy. The patient, aged twenty-six, was admitted into the *Dreadnought* on Nov. 16th, 1846. He had enjoyed good health up to July 1845, when he experienced severe pain in both flanks, followed by great frequency of micturition (apparently induced by copious libations of gin-and-water for a fortnight). The latter symptom continued for nine months, when it was accompanied by the passing of blood after the urine. While in the hospital, the prominent symptoms were, frequent micturition, accompanied with pain in glans penis and urethra, which was indurated; passage of bloody purulent urine; extreme pain, on the introduction of a catheter, at the neck of the bladder, and in its anterior; and enormous appetite. These gradually increased in intensity, the urethra becoming more and more indurated, followed by foul ulceration of the orifice of the urethra and glans penis, accompanied with copious foetid discharge. Diarrhoea at last set in, and he died hectic on February 18th. Besides the disease of the kidneys, the lungs were pervaded with crude tubercle, and the liver was also slightly affected; the intestines collapsed and glued together by soft adhesions; the omentum was drawn to a lardaceous mass, uniting transverse arch of colon to the left lobe of liver and stomach. Penetrating the coats of the transverse arch also was a deep ulcer connected with tubercular deposit.

ROYAL MEDICAL & CHIRURGICAL
SOCIETY.

March 9, 1847.

J. M. ARNOTT, Esq. F.R.S., in the Chair.

ON taking the chair, the President returned thanks to the Society for the honour of his election—an honour which was much enhanced by a reference to the many illustrious men who had preceded him. He made a brief statement regarding the very prosperous condition of the Society, of the value of its *Transactions*, its library, and meetings; and concluded by expressing his determination of encouraging conversations at the meetings, under all circumstances, and at all times. Votes of thanks were then carried to the late President, Dr. Chambers, and the retiring Secretary, Mr. Curling.

On Cynanche Laryngæa, or Acute Oedematous Inflammation of the Larynx. By GEORGE BUDD, M.D. F.R.S.

The chief object of the author, in this paper, is to show that the disease known to practitioners under the above title is really erysipelas, commencing in the fauces, or in their neighbourhood; and that it has been generally supposed to be confined to the larynx, and has been termed laryngitis, in consequence of its often proving fatal before the erysipelas has had time to spread far from this part.

In support of this view, he relates five fatal cases of this disease that have recently occurred in London: one in his own practice in King's College Hospital; three in the Dreadnought, the particulars of which were given him by Mr. Hudson; and one in Charing Cross Hospital, under the care of Mr. Avery, the particulars of which have been published in the medical journals.

These cases, the author observes, were clearly examples of the same disease; but they did not all begin exactly in the same manner. In three, the inflammation commenced in the fauces; in one, it commenced in the parotid gland; and in one, the first appearance of it was an erysipelatous blush at the angle of the lower jaw.

In all the cases the inflammation soon spread to the glottis, and produced there the same effects—namely, redness and great thickness of the epiglottis, and of the lips of the glottis, with effusion of sero-purulent fluid in the submucous cellular tissue—to such a degree as, in three of the cases, to produce almost sudden closure of the glottis, and consequent suffocation.

In three of the cases in which death occurred within a few hours after the inflammation of the glottis came on, and within

twenty-four or thirty-six hours from the commencement of the malady, the inflammation had not time to spread far, and the air-tubes, and lungs, and other organs, were sound.

In the other cases, which were more protracted, the inflammation had spread down the air-tubes, and there were marks of inflammation in the chest, and an infiltration of a sero-purulent fluid in the loose cellular tissue of the neck.

The occasional connection of laryngitis with erysipelas was noticed by Dr. Cheyne in his article on laryngitis, in the *Cyclopædia of Practical Medicine*; and again by Mr. Wood, in a paper published in the seventeenth volume of the *Medico-Chirurgical Transactions*. The first person to treat expressly of it was Mr. Ryland, of Birmingham, in his work "*On Diseases of the Larynx*."

The author cites the facts related by Mr. Ryland, and observes that they prove conclusively that inflammation of the larynx, causing great swelling of the lips of the glottis, and infiltration of fluid in the submucous cellular tissue, and thus leading to speedy suffocation, occasionally results from the poison of erysipelas.

He considers the following circumstances favour the opinion he has expressed as to the nature of the disease:—That the inflammation spreads in the same mode as in erysipelas of the skin, presenting the deep redness and swelling, and infiltration of a serous or sero-purulent fluid, which occur in that disease; that it is more fatal than ordinary laryngitis; and that it occurs most frequently amongst the inmates of hospitals in which erysipelas prevails, and amongst such of them as are peculiarly liable to erysipelas—viz., convalescents from continued fever or eruptive fevers, and those labouring under secondary syphilitic ulcers.

The author concludes with suggestions respecting the treatment of the disease, and some general remarks on erysipelas.

Mr. MORTON had listened with much pleasure to the paper just read, and agreed with the author that the disease to which it referred was closely related to erysipelas. In cases which had occurred under his own care, the ill-success of operations performed had resulted from the infiltration of the cellular tissues surrounding the organs leading to the lungs: He could not agree with the author respecting the part at which an operation should be performed. He (Mr. Morton) preferred the low operation, or tracheotomy, as an opening in the trachea gave the patient a better chance of escaping from infiltration surrounding the glottis.

Dr. COPLAND had seen many cases similar to those recorded in the paper. They were usually the results of disease, consecutive on

some of the exanthemata, either scarlet fever, small-pox, or measles, the inflammation first attacking the pharynx, and then extending to the larynx and trachea. Most cases of erysipelas of the mouth and fauces were fatal from this cause, the disease being associated with a depressed condition of the system, and often apparently epidemic. With respect to treatment, tracheotomy certainly afforded some hopes of relief; but in a case which he had seen, in which this operation had been resorted to, death took place, and the lungs were found in a state of such extreme congestion, as to be sufficient to account for the fatal result. This congestion was too great for the relief afforded by the operation to overcome. He had expected to hear from the author some allusion to the treatment recommended by Trousseau and others, of applying stimulants, as the nitrate of silver, to the glottis itself, the use of calomel, &c. With respect to local external applications, he believed many of these were useful; but he would not enter on that portion of the subject.

Mr. HOLMES COOTE said that last summer two cases of the disease under discussion occurred in St. Bartholomew's Hospital. One patient was just recovering from a large ulcer in the leg, when he was seized with great difficulty of breathing; leeches were applied to the throat, and antimony and other powerful remedies freely employed, but the difficulty increased, and laryngotomy was resorted to. The patient, however, sank, and, after death, the cellular tissue around the glottis was found in a state of inflammation; pus was infiltrated beneath the tissues, some portions of which were mortified. In another case, a patient, having a slight wound of the hand, and diseased wrist-joint, was suddenly seized, when recovering, with the same symptoms as those observed in the former case. The larynx was opened early, but without benefit. The disease seemed not only a consecutive one, but it appeared that it might come on at any time, as the result of some atmospheric influence. It did not seem to be the result of any particular disease, as there was none in the hospital at that time. With respect to treatment, he believed that in the more formidable cases we had no means of arresting its progress. He had no faith in local applications to the epiglottis, and thought that the treatment recommended by Dr. Budd was the most likely to be successful.

Mr. BUSK agreed in the main with the author of the paper as to the pathology of the disease. He related two cases which had occurred in the Seaman's Hospital, for the purpose of recommending a mode of treatment, which in these instances had been found quite successful. This treatment

consisted in making a great number of minute punctures on the back of the tongue, the uvula, and pharynx, with a sharp-pointed bistoury. The operation was repeated every half hour for two or three hours. The parts should be afterwards gargled with warm water: there was a great discharge of serum, and the relief was sudden and decided. He attributed the recovery in the two cases to which he had alluded, to this plan of treatment. It was only carrying out the principle recommended some years since by Sir H. Dobson, to be followed in cases of erysipelas affecting external parts. He, Mr. Busk, believed that this proceeding would often prevent the necessity of laryngotomy.

Dr. CURSHAM thought that some of the cases referred to by the author of the paper, as recorded by Dr. Tweedie, were different from those which had occurred under Dr. Budd's own observation, Dr. Tweedie's cases being diphtheritic.

Dr. BUDD assured Dr. Cursham that the cases recorded by Dr. Tweedie were precisely similar to those detailed in the paper before the Society. He had not gone at length into these cases, for fear of making his paper too long. They were cases following scarlet fever. Being lately by accident in the museum of St. George's Hospital, he saw three preparations of cedematous inflammation of the larynx. One of these cases was the result of erysipelas spreading from the face to the organs of voice. In the second case the disease came on after an attack of scarlet fever; and the third instance occurred to the porter of the hospital, who had not been affected with any other disease at the time. The patients were all inmates of the hospital. The disease only differed from erysipelas of the face simply from the locality affected.

Dr. THEOPHILUS THOMPSON believed that, though frequently allied to erysipelas, the disease under consideration sometimes occurred with all the characters of common sore throat, becoming dangerous, and even fatal, from the oedema which ensued and blocked up the air-passage. He had not been able to catch, during the reading of the paper, any allusion to constitutional remedies in the treatment of this disease. The operation was doubtless often necessary to save life; still, the after-treatment was of the most vital importance. In this after-treatment he placed a high confidence in the effect of mercury. He related a case which he attended with Mr. Roberts (and which, having been related at the Medical Society, was recorded in this journal at the time), in which laryngotomy was performed, apparently on a dying man. The operation relieved him; immediate death, in fact, being averted. He was, however, not out of danger until the mouth had been made

slightly tender by mercury, which was immediately exhibited. He believed that the patient would have died, except for this constitutional treatment.

The PRESIDENT, to shew the erysipelatous nature of the disease under discussion, related the following cases:—A gentleman was seized with a pain in the back of the throat, attended by difficulty of swallowing. Nothing could be seen. Leeches were applied, and blood afterwards taken from the arm. The blood was buffed and cupped. He appeared better; but a few hours after was suddenly seized with dyspnoea, and died. The only disease found was inflammation of the glottis, one of the margins of which had sloughed. Four days after, his wife, who had attended him, was seized with an affection of the throat: the tonsils were enlarged. Erysipelas of the head and neck shortly afterwards developed itself. The daughter, who came from the country to see her mother, suffered from inflammation of the larynx and pharynx, and afterwards from erysipelas of the head and face. When there was infiltration of purulent matter, he believed that in these cases the operation was always fatal. We did not know what to do after the operation in these cases.

Mr. BRANSEY COOPER spoke at great length on the subject; the chief point in his address referring to the general unsuccessful result of operations in chronic cases of affections of the larynx and trachea.

Dr. BARKER related some cases in which erysipelas or inflammation of the glands of the neck proved fatal, without the occurrence of dyspnoea or other symptoms mentioned by Dr. Budd, but in which, after death, effusion was found under the mucous membrane lining the larynx. He thought these cases were very common.

CONGENITAL CONSTRICTION OF THE VAGINA.

M. DEVILLIERS has related the history of a lady who conceived after five years of childless marriage, an impediment to conception having existed in a congenital constriction of the vagina, which narrowed the passage so considerably as scarcely to allow the finger to pass beyond it. When labour came on, however, no interference was needed, the constriction yielding readily, and allowing parturition to be accomplished without difficulty. From this fact he deduces the inference (which many cases already on record would substantiate) that congenital narrowing of the vagina may almost always be left to nature, although the acquired narrowing which results from inflammation and other similar causes generally needs interference.—*Dr. West's Report on Midwifery*, 1845-6.

Hospital and Infirmary Reports.

CASES TREATED AT THE WESTMINSTER HOSPITAL.

Reported by

GEORGE BRETHERTON BARRON, Esq.

Phlegmonous Erysipelas.

CHARLES WARRICK, *ætat.* 25, was admitted, Dec. 3, into Northumberland Ward, under the care of Mr. Phillips, with violent phlegmonous erysipelas of the left arm, extending from the hand to midway between the elbow and shoulder.

A few days before he was admitted, he received a kick on the arm, from which the erysipelas seemed to result. There was great tension and considerable prostration of the system. Large incisions were made to relieve the tension; the arm was wrapped up in a poultice, and at night he took *Liq. Opii Sedativus*, ℥℥i.; *Mist. Camphor.* ℥j.

4th, 4 A.M.—No sleep; great restlessness. The draught repeated, with *Sp. Æth. Sulph.* ℥j.

10 A.M.—The pain in the arm is relieved.—*Pil. Cal. c. Col. gr. x. statim.* If the flagging of the system increased, to have ℥j. of the *Mist. Vin. Gall. quartis horis.*

Vespere.—Bowels not being relieved, the skin hot and dry,—to have *Hausst. Cathart. statim*, and the *Mist. Efferves. q. q. 4tis horis.*

6th.—The patient is further relieved.—To have *Mist. Vin. Gall. ter in die. Omitta Mist. Efferves.*

7th.—More flagging.—To take the *Mist. q. q. 4tis horis.*

The process of sloughing has gone on rapidly; the superficial vessels of the arm completely laid bare; the muscles dissected.—*Quin. Disulph. gr. ij.*; *Ammon. Ses. Carbon. gr. iij.*; *Confect. Aromat. ℥iij. ter die.* Full diet.

9th.—Complains of want of sleep.—*Morph. Acetatis, gr. ½ hâc nocte.*

10th.—Going on satisfactorily.

11th.—Bowels confined.—*Pil. Cal. c. Coloc. gr. x.*

13th.—The sloughing process in the arm is interrupted, but the powers of reparation are feeble.—To have *Mist. Sp. Vin. Gallic. ℥j. 4tis horis.* Porter, *Ojss.*

17th.—There is much improvement.—To have *Mist. Vin. Gal. ter die et Mist. Quininz c. Acid. ter die.*

21st.—The patient is suffering from a sharp attack of influenza. Pulse 120; some sore throat; several rigors.—*Hyd. Chlorid. gr. iij.*; *Pulv. Antimonialis, gr. ij. statim*;

Mist. Ammon. Acetatis, ʒj. ; Tinet. Hyoscyani. ℥xv. 4tis horis. Broth diet.

22d.—Bowels confined; feverish excitement less.—Haust. Cathar. statim.

23d.—Feverishness much abated; bowels relieved; signs of failing again; interruption to reparation in the arm, which had been dressed for some days; more irritability about the surface.—Lint to be laid over it, and covered with a light poultice.—Mist. Sp. Vin. Gall. ʒiiss. 4tis. Middle diet.

25th.—Better; but complains of want of sleep.—Solut. Morph. Muriat. ℥xx. hñc nocte.

27th.—Better. — Rep. Haust. o. n.; Porter, Oj.

Jan. 2d.—Haustus Catharticus statim. Full diet.

7th.—The healing process is going on favourably, but the granulations are rather prominent. No complaint of pain.—To apply a lotion of Argent. Nitr. gr. ij. ad ʒj.

12th.—Going on favourably.—Porter, Oj.

22d.—Has passed a restless night; feels some tenderness and heat in the upper part of the arm; tongue is loaded with a brown coat; has had rigors, pain in the head, which is confined to the frontal region, and which is considerable; thirst and vomiting; the pulse quick, 96; bowels confined. There is evidently a recurrence of the erysipelas.—To have Hyd. Chlorid. gr. iv.; Opii, gr. ʒ statim; Haust. Cath. cras mane sumend.

23d.—The medicine has operated slightly. Vomiting continues very distressing; pain in the head no better; pulse quick, and rather weak; the redness appears more diffused.—Haust. Cathart.

25th.—To-day the patient is not troubled with the vomiting; the tongue is still much loaded; pain in the head better; pulse quick, and weaker, and there is an appearance of anxiety about the countenance. The healing process is completely put a stop to. The erysipelas is extending.—To have a ring made round the arm above the redness with lunar caustic.—Catap. Sem. Lin. Mist. Vin. Gal. ʒj. ter die.

26th.—The use of the caustic appears to have arrested the progress and extension of the erysipelas; tongue still coated; no return of vomiting, but occasional nausea; bowels open. He appears weaker.—To have ʒj. of the mixture every three hours.

27th.—Has passed a good night, and feels considerably better; tongue getting cleaner; pulse fuller; bowels relieved.—Pt.

28th.—Much better.—Pt.

30th.—Much in the same condition, but there is profuse discharge of pus, which is, however, of a healthy character.—Mist. Sp. Vin. Gall. ʒiiss. tertiis horis.

Feb. 3d.—Going on favourably.—Pt.

15th.—Up to this time he has been gra-

dually improving; the discharge is less.—To use a lotion of Decoct. Cinchon.

Orchitis.

James Moore, æt. 32, a sailor, was admitted into Mark Ward, Sept. 30th, under the care of Mr. Phillips. He had considerable swelling of both testicles resulting from direct injury, and his general appearance was by no means favourable.

He stated, that towards the end of the previous year he had received a blow on the right testicle; that the pain and disturbance had obliged him to seek medical relief; that he had been laid up, leeches, and purged; that gradually the more acute pain had subsided; that the swelling did not lessen. He returned to his work, and in the course of the month of March he was so unfortunate as to receive a severe blow on the other testicle: it was attended by much the same consequences as the previous injury. For several months he was quite disabled from following his usual occupation, and he was ultimately advised to seek admission into a London hospital.

Sept. 31st.—A careful examination was made into his case. Each testicle was as large as a turkey's egg; the surface was unequal, but there was not much tenderness upon pressure. It was evident there was a collection of fluid, apparently circumscribed on the right side, and it was doubtful whether there was not a small quantity on the left side. The cords were full, but not tender upon pressure; but he complained of severe pains in the loins. There was no appearance of emaciation about him, but the complexion had an unfavourable straw colour. Although there was some ground for suspicion as to malignity, while there was no reason to believe the existence of any syphilitic taint, or any urethral disease, it was determined, in the first instance, to treat the case as one of enlargement dependant on some inflammatory action.

Oct. 1st.—Hyd. Chlorid. gr. j.; Ext. Conii, gr. v. ter die. Pil. Cal. c. Colocyn. gr. xv. hñc nocte.

6th.—Substitute Opii, gr. ss. for Ext. Conii, as the patient complains of more uneasiness.

8th.—Lumbar pains still distressing.—Opii, gr. ʒ.

10th.—Some mercurial action excited.—Omitte pil.

12th.—There is in all respects decided improvement; less lumbar pain; less swelling of the testicle; and the colour of the skin much improved.—To have Liq. Potass. ʒss.; Potass. Iodid. gr. iij.; Decoct. Sarsæ. ʒiv. ter die. Hyd. Chlor. gr. i.; Opii, gr. ss. omni nocte.

19th.—The improvement has been steady.

24th.—Since the last report there has

been no great change. The system is not at present under the influence of mercury.—Let the pills be taken twice a day.

27th.—Slight mercurial irritation again set up.—Haust. Sennæ, ʒiss.; Magnes. Carb. ʒj. statim.

Nov. 5th.—Under the mercurial influence there is still further reduction in the bulk and hardness of the testicles, and the irregularity of the surface has nearly disappeared.—Let the scrotum be covered with Linim. Hydrarg.

8th.—The liniment has excited the skin of the scrotum, and a feeling of soreness has extended to the testicles.—Let the liniment be discontinued.

13th.—All tenderness of the scrotum has now disappeared. The general health is satisfactory; the testicles are not more than half their former bulk; the lumbar pain has entirely ceased.—Let strapping be applied so as to make firm equable pressure on both testicles.

20th.—Under pressure, the size of the testicles is still further reduced, but the strapping has not been without inconvenience, for there is excoriation of the surface.

Dec. 1st.—All matters are now quiet. The bulk of the organs is not reduced to its natural size, but he is afraid that unless he returns home he will lose the fishing season. He therefore left the hospital.

Phlegmonous Erysipelas.

George Dawn, æt. 21, Northumberland Ward.

This patient was admitted January 16th, under the care of Mr. Phillips, with erysipelas. Two days before admission, the arm was squeezed against the wall by a horse. The erysipelas, on his admission, affected principally the skin; it extended from the wrist to midway between the elbow and the shoulder.

The constitutional symptoms were not urgent, but the tongue had a whitish coat.—Foment. et Catap. Broth.

17th.—The erysipelas was not worse; but as there was a disposition to creep on, a line was drawn beyond the redness with Argent. Nitrat. The bowels were not relieved.—Haust. Cathart.

From the above for several days there was a gradual abatement.

23d.—Hyd. Chlor. gr. iv.; Opii, gr. ss. statim. Haust. Sen. post horas quatuor.

24th.—Bowels insufficiently relieved.—Haust. Cath. statim.

25th.—Bowels relieved; skin dry; pulse quick.—Mist. Ammon. Acet. with excess of Ammonia, 4tis horis.

27th.—Bowels still constipated; tongue furred; some headache.—Pil. Coloc. co. gr. x. statim. Haust. Cath. vespere.

28th.—Bowels not relieved; headache

increased; erysipelas has passed the line.

—Magnes. Sulph. ʒvj.; Tinct. Jalap. ʒij.; Tinct. Zingib. ʒj.; Aque Menth. ʒij. statim.

29th.—Bowels freely opened; the stomach rejected a portion of the draught.

30th.—The pulse has less power; the tongue still loaded; less headache; the erysipelas still creeping on; vesications over the surface.—Mist. Sp. Vin. Gallic. ʒj. 4tis horis.

Feb. 1st.—He is much better this morning. The erysipelas appears to be somewhat arrested; tongue not so much loaded; pulse still continues flagging; bowels open.—To continue the medicines.

3d.—There is decided improvement. He does not complain of pain; the tongue is now quite clean; pulse stronger.—Rep. ʒij.

From this time the patient rapidly got well.

Injury of the Head with Erysipelas.

William Compton, æt. 27, was admitted into Henry Hoare Ward, under the care of Mr. Phillips, on the 4th of December. He had received a scalp wound in the occipital region at the House of Lords; the wound was not extensive, nor did it penetrate the periosteum, but was accompanied by slight concussion.—To have Hyd. Chlor. gr. iij.; Haust. Sen. post horas quatuor.

5th.—The bowels are not relieved; there is much headache, and the pulse is quick, 88.—Rep. Haust. Sennæ, 4tis horis donec alvus responderit.; Emp. Lyttæ nucha. Mistura Diaphoretica 4tis horis.

6th.—The bowels have been amply relieved; head much more comfortable.

8th.—Complains of more headache; tongue whitish; pulse 90.—Hirudines viij. temporis dextro. Haustus Sennæ.

9th.—The pain in the head has nearly disappeared. The bowels have been copiously relieved.

10th.—A recurrence of the headache without any other trouble.—Emplast. Lyttæ nucha.

11th.—The pain not much improved; bowels confined; pulse 90. Hydrargyri Chloridi grana quinque; Haustus Sennæ postea.

12th.—Bowels relieved; pain persists in right temple.—Hirudines x. temporis dextro.

13th.—The pain in the head more severe; the night sleepless; the pulse 98; tongue dry; some intolerance of light and sound. Symptoms of cerebritis have been insidiously creeping on.—To have Hyd. Chlor. gr. iij.; Pulv. Opii, gr. ʒ. tertiis horis. Vespere.—A little abatement of the cerebral irritation, but the pain persists in the temples.—Cont. Pil. 6tis horis. Hirudines viij. singulis temporibus.

14th.—Cerebral irritation lessened; bow-

els confined; pulse 92.—*Haustus Sennæ statim.*

15th.—The gums are sore; the cerebral trouble much abated; pulse 96.—*Omitte pilul.*

16th.—An erysipelatous redness appears on the scalp and forehead; the skin is hot and dry; the tongue more coated; the pulse quickened.—*Mistura Ammon. Acet. ʒj. ter die.*

18th.—The scalp very tumid; the pulse flagging. The scalp to be wrapped up in fomentations.—To have the *Mist. Vini Gallici, ʒj. 6tis horis. Beef-tea Oj.*

23d.—Under this treatment he steadily improved.—*Middle diet.*

28th.—*Omitte Mistura.*

Jan. 5th.—Discharged cured.

REMARKS.—Mr. Phillips remarked that few seasons passed in which some particular affection did not present itself with more than ordinary frequency. In the last six weeks almost every wound or contusion seems disposed to assume unusual gravity. Cellular inflammation, in the shape of what is known as phlegmonous erysipelas, became especially frequent, and very severe. In some cases, where there was much tension, incisions were made; in others, where there was much congestion but less tension, very small incisions or punctures were made. In almost every case the main stay was the *Mist. Spirit. Vin. Gall.*, the dose and the frequency of administration depending upon the case. The results have been most satisfactory; every case, so far, has done well.

Correspondence.

PROFESSOR SIMPSON ON THE EMPLOYMENT OF ETHER IN THE PRACTICE OF MIDWIFERY*.

A CAREFUL collection of cautious and accurate observations will no doubt be required before the inhalation of sulphuric ether is adopted to any great extent in the practice of midwifery. It will be necessary to ascertain its precise effects, both upon the action of the uterus, and of the assistant abdominal muscles; its influence, if any, upon the child; whether it gives a tendency to hæmorrhage or other complications; the contra-indications peculiar to its use; the most certain modes of exhibiting it; the length of time it may be employed, &c.† In no case

have I observed any harm whatever to either mother or infant follow upon its employment. And, on the other hand, I have the strongest assurance and conviction that I have already seen no small amount of maternal suffering and agony saved by its application. The cases I have detailed sufficiently show its value and safety in cases of operative midwifery. And here, as in surgery, its utility is certainly not confined to the mere suspension and abrogation of conscious pain, great as, by itself, such a boon would doubtless be. But in modifying and obliterating the state of conscious pain, the nervous shock otherwise liable to be produced by such pain,—particularly whenever it is extreme, and intensely waited for and endured,—is saved to the constitution, and thus an escape gained from many evil consequences that are too apt to follow in its train. Granting that experience will yet be able to prove its safety and efficacy in modifying and annulling the pains of labour, will (I have repeatedly heard the question asked) the state of etherization ever come to be generally employed with the simple object of assuaging the pains of *natural* parturition? Or (as the problem has not unfrequently been put to me) would we be “justified” in using it for such a purpose?

If experience betimes goes fully to prove to us the safety with which ether may, under proper precautions and management, be employed in the course of parturition, then, looking to the facts of the case, and considering the actual amount of pain usually endured (as shown in the descriptions of Merriman, Nægele, and others), I believe that the question will require to be quite changed in its character. For, instead of determining in relation to it whether we shall be “justified” in using this agent under the circumstances named, it will become, on the other hand, necessary to determine whether on any grounds, moral or medical, a professional man could deem himself “justified” in withholding, and *not* using any such safe means (as we at present pre-suppose this to be), provided he had the power by it of assuaging the pangs and anguish of the last stage of natural labour, and thus counteracting what Velpeau describes as “those piercing cries, that agitation so lively, those excessive efforts,

exhibiting it, the first or exhilarating stage of its effects should be passed through as rapidly as possible, and the patient never allowed to be excited or irritated by the nurse or others. I have heard its use strenuously denounced on the ground that its effects, though good and evanescent, are still of an intoxicating character. But on the same ground, the use of opium, &c. &c. in medicine, to relieve pain and produce sleep, should be equally reprobated and discarded.

* Communicated by the Author.

† I have, during labour, kept patients under its influence for upwards of half an hour. In

those inexpressible agonies, and those pains apparently intolerable," which accompany the termination of natural parturition in the human mother.

Edinburgh, February 1847.

MORTALITY AMONG CHILDREN IN INDIA.

SIR, — Kindly permit me to enclose a small table, exhibiting the annual average mortality among the children of European soldiers, in the Madras Presidency, for a period of 10 years, for which I was indebted some years ago to Dr. Nicholson, then Deputy Inspector-General at Madras, but which had fallen out of the way when I forwarded the last communication. With regard to the paragraph in your last number, relative to the mortality in India during

the year 1844, I think it ought to have been stated that all the European troops in the Madras Presidency were at rest during that year, whereas a great portion of the Bombay,—to wit, the 2d, or Queen's Royal Regiment, 22d, 2d European and part of the 14th Dragoons, were actively engaged in field operations in the Southern Mahratta country and Southern Coconan: also, whether those in Scinde and at Aden were included.—Very truly yours,

R. H. A. HUNTER,
Surgeon 67th Regiment.

Dover, March 6th, 1847.

N.B.—1844 was, however, in the Madras Presidency, a remarkably healthy year. The 57th Regiment, at Fort St. George, only lost ten men out of an average strength of upwards of 100.

Table, shewing the comparative mortality at the principal stations in the Madras Presidency, amongst the children of H. M. Regiments, from the year 1835 to 1844 inclusive.

Stations.	Strength.	Deaths.	Ratio per 1000 annually.	Remarks.
Madras	1469	143	97.3	Accommodated in barracks.
Bangalore . . .	1461	73	50.0	„ in huts.
Bellary	1410	110	78.0	„ do.
Secunderabad . .	1260	158	125.4	„ do.
Moulmein	949	61	64.2	„ do.
Trichinopoly . .	994	73	73.4	„ do.
Cannanore . . .	1305	82	62.8	„ do.
Total	8848	700	79.1	

REMARKS ON MR. NUNN'S REPORT OF "FATAL EFFECTS OF ETHER VAPOUR IN A CASE OF LITHOTOMY."

SIR,—The importance of the subject of ether inhalation must be my excuse for remarking upon the paper which appeared under the above quoted title in the MEDICAL GAZETTE of March the 5th. The publicity which the case has acquired will doubtless be in some respects beneficial, as it will probably induce surgeons to use more circumspection in their selection of cases for letheonizing than they have hitherto done; for nothing is calculated so much to depreciate the character of, and neutralize the good effects derivable from, new remedies or new applications of remedial agents as their indiscriminate employment: but still, I apprehend that the recorded facts of the case are not sufficient to substantiate the conclusion arrived at by Mr. Nunn; and that, while treating of a point of practice of such vital importance to the profession and interest to the public, he should have given a full history of the patient's case and constitutional characteristics prior to the opera-

tion, and a more extended account of the post-mortem appearances, so that the profession might have been enabled to form a deliberate judgment respecting the cause of the unhappy result.

Doubtless the administration of ether vapour is liable to abuse, and some from a love of novelty, or desire for notoriety, may have been led to its too frequent employment, but still sufficient benefit has resulted from its use to prove that it possesses properties of almost inestimable value; and although it may be advisable to make known the fact that the ether vapour if exhibited without due regard to the constitutional peculiarity of the patient and to the nature of his case, may operate injuriously, perhaps fatally—and what therapeutic agent, however comparatively harmless, is free from the like dangers?—would it not be better before assuming that in a given case death has resulted from the agent, to consider—

1st. Whether such symptoms and such a result as those which happened after the operation in question do not occasionally occur, and may not have occurred in this

instance, independently of ethereal inhalation, and even in a healthy subject?

Only one answer, and that an affirmative one, can be made to this query by any one who has been accustomed to witness operative surgery.

2dly, Whether any disease existed which had a tendency to render the patient more liable to collapse?

That there was, there is strong presumptive evidence, in the fact that the "left kidney was pale, the right kidney congested," appearances indicative of Bright's disease—a disease peculiarly liable to induce a fatal result to any operation*. The existence of this disease, too, would account for the relaxed state of the bladder and the disposition of the small vessels to bleed during the operation, and for the flaccid state of the heart "post-mortem."

3dly, Whether there were present any symptoms or post-mortem appearances which would clearly indicate poisoning by the vapour of ether?

Now, as regards symptoms: "the patient recovered from its effects (the effects of the ether) after a short time;" and here I think that the influence of ether may be said to have altogether ceased, for all the subsequent symptoms, viz. "a quiet, passive state, but without decided reaction for twenty-four hours; a chill, which lasted for nearly twenty minutes; complete prostration; incoherence;" death on the third day—would have been considered an unhappy, but not unusual sequence of the operation of lithotomy had no ether been administered.

With respect to the state of the lungs,— "anteriorly exsanguineous, posteriorly engorged,"—it was evidently dependent upon post-mortem gravitation of the blood. To arrive at any just conclusion as to the meningeal congestion, it should be known whether it were general or partial, and, if the latter, whether as in the lungs situated posteriorly, a very probable consequence of the fluid state of the blood. The fluid state of the blood as a post-mortem appearance is not sufficient to substantiate a supposition of poisoning; it is not even an universal symptom of poisoning by gases, for the fatal

inhalation of oxygen induces an unusually rapid coagulation of the blood (Christison on Poisons.)

In his deductions from the case, Mr. Nunn observes, that "pain is doubtless our great safeguard under ordinary circumstances;" this may be freely admitted; but to conclude that it is also a "healthy indication, and essential concomitant of surgical operations," is by no means equally allowable; for pain may primarily, as well as by its after effects, be fatal to life. The avoidance of pain during an operation is not the only good end attained by the lathenizing agent, for the prostration consequent upon that pain, and the perpetuation of pain by a morbidly vivid recollection of its infliction, are avoided also* and these are often more trying to the patient than the primary shock to the nervous system.—I am, sir,

Your obedient servant,
JOHN MOORE.

Bourton-on-the-Water,
March 10, 1847.

Medical Intelligence.

PROHIBITION OF THE USE OF ETHER VAPOUR IN MINOR OPERATIONS.

L'Union Médicale informs its readers that the Council of Health of Zurich has issued an order prohibiting the use of ether vapour by those who practise dentistry, bleeding, and other minor surgical operations. This prohibition has been issued in consequence of certain accidents having arisen from the use of ether vapour by inexperienced persons.—*13 Mars.*

FEVER IN IRELAND.

AMONG the medical officers who have lately fallen victims to fever in Ireland are Michael Daniel, Esq., surgeon to the Free Hospital, Cahir, and David Smith, M.D., medical attendant of Middleton Fever Hospital and Dispensary.

MEDICAL TREATMENT OF THE CONVICTS AT WOOLWICH.

IN consequence of the late debate in the House of Commons upon the treatment of the convicts at Woolwich, Sir George Grey has appointed Captain Williams, the Inspector of Prisons, as Commissioner, to inquire into the charges then made by Mr. T.

* A case of lithotomy recorded in my "Prize Clinical Reports," &c. led to the following expression in the *MEDICAL GAZETTE* of June 13th, 1845, p. 290. "The case proved fatal under treatment, and, as is almost the invariable rule in such instances, the kidneys were found mottled and otherwise diseased." The medical periodicals of the last two or three years have afforded numerous examples of fatal results to operations where Bright's disease has been observed to be present, but has been spoken of as a mere casual occurrence, no allusion having been made as to the relation of this disease to the fatal issue. The necessity for making investigations as to the existence of this disease prior to operating is not sufficiently admitted, or, if admitted, not properly acted upon.

* A patient of great mental power may bear a most formidable operation with stoic fortitude, and yet the nervous prostration consequent upon such unwonted exercise of the will, and the recollection of the suffering he has undergone, will afterwards so unman him, that the comparatively trifling pain of dressing the wound will induce the most urgent expressions of pain.

Duncombe, and to report upon the general treatment and condition of the prisoners in the hulks. The inquiry commenced on Friday last on board the *Justitia* hulk, Mr. T. Duncombe being in daily attendance for the purpose of substantiating his charges, and Mr. C. M. Babington, the surgeon, is employed as medical referee. It is expected that the investigation will occupy some time.

DETECTION OF FEIGNED DISEASES BY ETHER VAPOUR.

M. BAUDENS has employed ether vapour in two cases in which the individuals were suspected of feigning disease for the purpose of avoiding the conscription. In the first there was an apparent deformity of the spine and projection of the back. The young recruit who was suspected to be an impostor had been subjected to various experiments, but without success. He was finally made to inhale ether vapour; in a few minutes there was complete relaxation of the limbs, and the supposed deformity entirely disappeared. Thus convicted, the man no longer denied that he had feigned the deformity for the purpose of avoiding service. In the second case the person was believed to feign ankylosis of the hip-joint. When the ether had been inhaled, the same relaxation of the muscular system was produced; but, on examination, the ankylosis remained as strongly marked as before the experiment: thus proving that the disease was real.

SALT AS AN ARTICLE OF FOOD.

M. PLOUVIEZ has come to the conclusion that common salt is not merely a condiment, but that it possesses important nutritious properties, and is capable of serving as an article of food. He infers from his observations—

1. That common salt is not only an aid to nutrition, but that it serves for nourishment, like bread or meat.

2. A proper employment of this substance will be of great importance to those classes of society who are unable to procure sufficient animal and vegetable food.

3. Salt produces greater strength and vigour than physical development; hence it is especially fitted for the weak and infirm.

4. In a certain dose it may supply the place of a portion of the food given to horses.

* * We fear that there will be as little substantial nutriment in the Plouviez "salt diet" as in M. Soyer's soup. Of the two, M. Plouviez's theory involves the greater miracle, since M. Soyer employs in his soup animal proximate principles, although in homeopathic doses; but M. Plouviez pretends to construct muscle, bone, and blood,

out of chloride of sodium! The proper way of dealing with these culinary theorists is to condemn them to a rigorous course of the food with which they propose to fatten the public.

EFFECT OF ETHER VAPOUR ON THE BLOOD.

M. LASSAIGNE found that, in venous blood before inhalation the clot was to the serum as 65 to 34, while after inhalation it was as 59 to 40; hence there was a great increase of serum. The quantity of ether vapour absorbed is very small, being 0.0008 of the mass of venous blood, or, in 100 parts—

Venous blood	. . .	99.919
Ether	. . .	0.081

100

SUPPRESSION OF A LUNATIC ASYLUM.

We perceive that the Lord Chancellor has, we believe for the first time, resorted to the exercise of the power conferred upon him by the new Lunacy Act, and has, from and after the 13th April next, withdrawn the license of a lunatic asylum in the parish of Gate Helmsley, in the county of York. The reasons for this step are not assigned. The asylum in question is, we believe, in the hands of a non-professional person.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination and received certificates to practise on Thursday, March 4th, 1847.—Peter Brady.—Thomas Orton, Rothbell.—William Cumming.—Edmund John Barman, Bantstead, Surrey.—James Graham, Liverpool.

March 11th, 1847.—John Shepherd Fletcher, Manchester.—Thomas Olacres, Market Bosworth.—Thomas Binford Eyre, Yeovil.—Nathaniel Best Gill, Company's Service.—George Booker, Dronfield, Derbyshire.—Edward Mawthill Tearne, Stockton, Worcestershire.—Horatio Sillifant, Exeter.—Charles Henry Holman, Crediton, Devon.—Edward Hancock, Stoke, near Plymouth.

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted members on Friday, March 12th.—G. Allbutt.—C. M. Empson.—H. Barnett.—H. Green.—W. Faithfull.—J. M. Birom.—J. Rice.—C. S. Hugo.

OBITUARY.

Lately, at Norwich, Edward Lubbock, M.D., one of the physicians to the Norfolk and Norwich Hospital. He was in the 44th year of his age.

Selections from Journals.

PATHOLOGY.

CASE OF COLLOID TUMOR IN THE CAVITY OF THE CRANIUM.

BY THOMAS MILLER, M.D.

G. C., purser in the U.S. navy, *æt.* 42, of temperate habits, but who had been much exposed from the nature of his occupation, about ten years since was affected with symptoms of dyspepsia, frequent violent pains in the back of the head, which rendered him irritable, impatient, and unsettled in his temper, &c. Six or seven years ago he was suddenly attacked with aphonia. Twelve months ago the narrator was called to attend him: the immediate cause of Dr. Miller's being consulted was a severe hæmorrhage from the lungs, which was readily controlled. At that time a foreign body protruded from the patient's left ear; this growth had been pronounced to be a polypus. He stated that he had endured, and was still enduring, great suffering from his head, ear, and throat, referred all his pain to the back part of his head, in each side, over the junction of the occipital and temporal bones, extending posteriorly along the nucha, and anteriorly along the course of the Eustachian tube and the large vessels of the neck; he could not, nor had he been able for many years to lie easily on his left side. Some time after this, the foreign body was removed from the ear by forceps and caustic. He suffered much; it was supposed that every vestige of the body was removed. In December, 1843, about three months before his death, he again came under Dr. Miller's care. That gentleman found him lying in bed, complaining of great restlessness and general pain, particularly severe about the back of the head, neck, and in the mastoid portion of the left temporal bone; the pain extending along the course of the large vessels and at the condyles and angles of the jaw (left side). There was partial paralysis of his tongue, which was drawn to the left side, when an effort was made to protrude it. He had much difficulty in deglutition, often strangled when eating, and often coughing up what he had swallowed. There was a remarkable paleness of the left side of the tongue, while the right side, up to the median line, was more than usually red; pressure on the thyroid cartilage, &c. produced no pain. He complained constantly of an uneasiness in his chest and sense of stricture; not much cough; sense of distension and fulness in his abdomen, which was constricted. "He was under the impression that there was a foreign

substance in his ear, and in the cells of the mastoid process; and that his pneumogastric nerve was affected, and that this foreign substance had passed to the throat." He continued in this condition, losing flesh and strength, constantly predicting that he must soon die, and that nothing would benefit him. He had frequent attacks of singultus, and towards the last of his illness there were chills and heats. His pulse continued regular, and at 80 to 90, till within a few days of his death, when it arose to 120 to 150. The chills became more frequent, deglutition more difficult, respiration more distressed and painful, till they finally ceased on the 2nd of March.

Upon examining the body, both lungs were found studded with tubercles, and otherwise diseased. The cerebrum and cerebellum were healthy; a large quantity of sero-sanguineous fluid ran from the spinal canal. In the fossa occupied by the left lobe of the cerebellum was situated a foreign body, having the appearance of a large hydatid, extending from the posterior inferior part of the left lobe of the cerebellum, to the junction of the pons varolii with the crura cerebri, pressing on the left inferior side of the cerebellum, pons varolii, and medulla oblongata, where the 6th, 7th, 8th, and 9th pairs of nerves pass off, making a deep indentation, if not having produced absorption, into that portion of the cerebral mass. This tumor was fully as large as a hen's egg. It was removed with the temporal bone,—in doing so, the sac was cut into—its contents were found to be a semi-transparent gelatinous substance, of the consistence of the vitreous humour of the eye, having minute red vessels passing through it. This tumor appeared to have sprung from the bone, and was situated below the dura-mater. A portion passed through the posterior foramen lacerum along with the jugular vein and par vagum nerve. Another portion passed through the carotid foramen with the artery, then uniting with that portion which passed out of the jugular foramen, enveloping the nerve, artery, and vein, and embracing the 9th pair of nerves as it passed on its way to the tongue; these, in a word, were all involved in the tumor. The tympanum, vestibule, and all the canals of the internal ear, were filled with the same substance as that which composed the tumor. There could be detected no trace of the portio mollis except its root. The portio dura was traced to the stylo-mastoid foramen, where it soon became involved in this tumor. The author could not make out any definite proper covering to the substance of the tumor, but he felt satisfied that it was covered with a proper coat, and that it had a reticulated or cellular arrangement similar to the hyaloid membrane of the vitreous humour,

for the substance presented that degree of consistence for which he could assign no other cause. Dr. Miller remarks, very justly, that this was a most satisfactory autopsy. The early history of the case would shew that the origin of all the patient's sufferings was in the ear—that all his symptoms of paralysis of the pharynx, tongue, &c., arose from pressure on the 9th nerve. The pressure on the par vagum and sympathetic accounts for the early embarrassment of the lungs, heart, and stomach; the pressure on the left side of the cerebellum, pons varolii, and medulla oblongata, from which these nerves spring, causing paralysis of the right side*. The difficulty in deglutition arose from the loss of nervous power and influence to the pharynx; the pain (which was not a severe sharp pain) about the mastoid portion of the head, and down the neck, arising from the pressure of the nerves on the neck by the tumor; the lodgment of the food, arising from the loss of power in the pharyngeal muscles to propel the morsel, and the loss of power to raise the larynx, being accounted for.—*Abridged from the Boston Medical and Surgical Journal; and The Medical Examiner.*

* Hemiplegia is not previously mentioned among the symptoms from which this patient suffered.

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Mar. 6.

BIRTHS.	DEATHS.	Average of 5 Winters.
Males.... 714	Males.... 526	Males.... 543
Females.. 676	Females.. 483	Females.. 526
1390	1008	1068

DEATHS IN DIFFERENT DISTRICTS.

(34 in number;—Registrars' Districts, 129. Population, in 1841, 1,915,104.)

WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326)	123
NORTH—St. Marylebone; St. Pancras; Islington; Hackney (Pop. 366,303)	175
CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London (Pop. 374,759)	190
EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar (Pop. 393,247)	214
SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich (Pop. 479,469)	300
Total	1008

CAUSES OF DEATH.

ALL CAUSES	1008	1068
SPECIFIED CAUSES.....	1007	
1. Zymotic (or Epidemic, Endemic, Contagious) Diseases ..	148	83
<i>Sporadic Diseases, viz.—</i>		
2. Dropsy, Cancer, &c. of uncertain seat	110	112
3. Brain, Spinal Marrow, Nerves, and Senses	173	170
4. Lungs and other Organs of Respiration	363	354
5. Heart and Bloodvessels	36	28
6. Stomach, Liver, and other Organs of Digestion	60	70
7. Diseases of the Kidneys, &c.	10	8
8. Childbirth, Diseases of the Uterus, &c.	13	12
9. Rheumatism, Diseases of the Bones, Joints, &c.	10	7
10. Skin, Cellular Tissue, &c.	2	2
11. Old Age	49	81
12. Violence, Privation, Cold, and Intemperance	34	39

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	8	Convulsion.....	50
Measles	5	Bronchitis	85
Scarlatina	11	Pneumonia.....	97
Whooping-cough..	44	Phthisis	128
Typhus	28	Dis. of Lungs, &c.	7
Dropsy.....	15	Teething	6
Sudden deaths ..	13	Dis. Stomach, &c.	3
		Dis. of Liver, &c.	7
Hydrocephalus..	29	Childbirth	6
Apoplexy.....	23	Dis. of Uterus, &c.	4
Paralysis.....	26		

REMARKS.—The total number of deaths was 60 below the winter average. The mortality was nearly equally diffused over all the districts, and calls for no particular remark.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer	30.24
“ “ “ Thermometer	37.9
Self-registering do. max. 50.3 min. 27.3	
“ in the Thames water — 39.2 — 36.4	
a From 12 observations daily. b Sun.	

RAIN, in inches, .04: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 6° below the mean of the month (43.9°).

NOTICES TO CORRESPONDENTS.

The length of the letter, signed A, on the College of Physicians, compels us to postpone its insertion.

Dr. J. H. Bennett's paper, entitled Observations on Cancer, has been received.

Dr. Buchanan's remarks on the Physiological Effects of Ether will be published.

The case of Lithotomy, reported at page 458 of our last number, was by Dr. W. Laxson, and not "Saxon," as the name stands in the report.

Dr. Black's paper on the Physiological Action of Ether has come to hand.

If Mr. Steele will favour us with a short corrected report of the inquest, it shall be inserted.

RECEIVED.—The Liverpool Mail.

Lectures.

GULSTONIAN LECTURES,

*Delivered at the College of Physicians
February, 1847,*

BY WILLIAM BALY, M.D.

Physician to the Millbank Prison, and Lecturer
on Forensic Medicine at St. Bartholomew's
Hospital.

LECTURE III.

*Cause of the dysentery in the Millbank
Penitentiary—Influence of the seasons
and the weather on its degree of preva-
lence—Its alliance with cholera and fever
—Causes of the bowel complaints preva-
lent in other prisons and in some work-
houses and lunatic asylums—Suscepti-
bility of the influence of malaria pro-
duced by imprisonment—Characters of
the site of the Millbank Penitentiary—
General doctrines of the causes of dysen-
tery—It is produced by a poison absorbed
into the system from without—Mode of
action of this poison—Cause of the pecu-
liar nervous disorders observed in the
Penitentiary—State of the nervous sys-
tem produced by separate imprisonment—
Treatment of dysentery—Of the simple
inflammatory or sthenic form—Of the
asthenic form—Conclusion.*

THE first subject for inquiry to-day is the
cause of the dysentery which has from time
to time prevailed at Millbank. The phy-
sicians who had the medical charge of the
Penitentiary during the epidemic of the year
1823, reported as their final opinion that the
disease had been produced by a local noxious
influence. They adduced good reasons for
holding this opinion, and subsequent occur-
rences have shown its correctness. Diarrhoea
of a very mild character has seldom been
altogether absent from the Penitentiary:
dysentery has been a frequent disease there;
and in one year this disease has prevailed as
a severe and fatal epidemic.

It cannot be doubted, therefore, that the
cause of the disease is a noxious influence
fixed on the spot, but capable of undergoing
variations in its power of action. The term
noxious influence, however, is a very general
one. Cannot the nature of this influence
be more closely defined? I think it can.
Here, as in other instances where dysentery
is endemic in prisons, workhouses, or
lunatic asylums, the cause really producing
it is, I believe, a malaria rising from the
surface of the ground around the building.
There are other influences from which dys-
entery might be supposed to arise, namely,
diet, the water used as drink, defective ven-
tilation, and defective sewerage.

None of these, however, can have been the efficient
cause of the disease in the Penitentiary. I
think it unnecessary to detail on the present
occasion the facts by which this has been
rendered certain. I shall therefore at once
proceed to adduce those reasons which, to
my mind, prove the dependence of the dis-
ease on a gaseous poison or malaria derived
from the soil of the surrounding grounds.

One of these reasons, and an important
one, is the relative frequency of the cases of
dysentery and bowel complaints in general
at different seasons and in different states of
the weather. They prevail most in the
autumn and in the spring, especially in a
wet autumn following a hot summer, or in
a mild spring when the preceding autumn
was wet and the winter severe; in other
words, at those times when, from the state
of the soil and atmosphere, the decomposi-
tion of the organic matters in the soil is
necessarily most active. It may be recal-
lected that the epidemic of the year 1823
commenced at the close of a very cold
winter, and that the bowel complaints espe-
cially became prevalent and severe when
mild spring weather ensued. The rise and
progress of the epidemic of the year 1842
have a similar history. The latter half of
the preceding year was remarkable for long-
continued rains; and in the month of Octo-
ber the low garden grounds to the north of
the prison were inundated, owing to the
river overflowing its banks. A cold winter
followed. In the latter part of February,
1842, the weather was mild, while the at-
mosphere was humid; and then it was that
cases of dysentery suddenly became very
numerous amongst the prisoners, and con-
tinued so throughout the month of March.
From the beginning of April to the middle
of July the weather was dry and cool, and
the dysentery gradually subsided; but at the
close of July very hot weather set in, and
then the disease became prevalent more or
less throughout the country, and again
attacked a large number of the prisoners in
the Penitentiary. At the end of September
the hot weather was succeeded by a cold and
dry state of the atmosphere, and the prison
once more became very healthy. Lastly,
about the middle of October, a moist and
foggy state of the air ensued, and then
dysentery returned, together with fever.
This coincidence between the prevalence of
dysentery and bowel complaints on the one
hand, and particular states of the weather
on the other hand, has been observed in
years when those diseases have been less
prevalent than in the year 1842, and it
seems to me reconcilable with no other
theory of the cause of the diseases in ques-
tion than that which ascribes them to the
influence of a malaria rising from the soil.

Another class of facts, strongly supporting the same theory, are those which shew the close alliance between dysentery and other diseases which are more indisputably of miasmatic origin, namely, common cholera and fever. Not merely have epidemics of dysentery in the Penitentiary been preceded or followed by the prevalence of one or other of those diseases, but an attack of dysentery has often been ushered in by cholera, or has been combined with fever in the same patient. The direct transition from the choleric state, attended with rice-water evacuations, to a condition characterised by all the symptoms of inflammatory dysentery, has been often observed, especially in hot summers and autumns.

I have already mentioned the frequent co-existence of typhoid fever and dysentery in the same patient, in speaking of the morbid anatomy and of the symptoms of the latter disease. Dr. Latham, too, noticed the association of a fever with the other disorders which constituted the epidemic in the Penitentiary in the year 1823, and he has given an account of its relation to those other disorders according so closely with what I have myself observed, that I shall quote the passage:—

"While the flux of the bowels and the disorders of the brain and nervous system," Dr. Latham says, "prevailed to their greatest extent, the cases of fever were rare. It was not until these complaints began to subside, that the fever shewed itself in a sufficient number of cases at once to make us accurately acquainted with its type. At no time did it pervade the prison to an equal extent with the other two forms of disease, but it had a just claim to be considered as a part of the disease of the Penitentiary; and the manner in which it was mixed up with the disorders of the bowels and the brain and nervous system led to the belief that they had all a natural relation to each other, and that they all sprang from one and the same morbid condition of the constitution at large.*"

The fever thus associated with dysentery at the Penitentiary has, during the period in which I have observed it, been generally characterized by the predominance of intestinal symptoms; sometimes, in fact, the affection of the larger bowels formed so important a part of the disease that it was difficult to say whether the patient was labouring under fever complicated with dysentery, or under dysentery with unusually active symptomatic feverishness. In other cases the principal disease was evidently idiopathic fever, the symptoms of the bowel affection being by comparison only faintly developed.

* Account of the Disease lately prevalent in the Penitentiary. London, 1823, p. 118.

I must here, however, remark that fever at the Penitentiary has not always had these characters: sometimes other organs than the intestines, namely, the brain or the lungs, have chiefly suffered. In a few remarkable instances, too, the sole characteristic feature has been profuse and constant sweating; the other symptoms being headache, pain in the loins, a thickly-coated tongue, a quick and feeble pulse, and great general debility. In these cases life was sustained, and health at length restored, only by the aid of wine and bark very freely administered. Cases of similar kind seem to have been observed by Dr. Latham, though, in the instances he notices, the sweating and debility did not come on till the second week of the disease, while in those I have seen they existed from the first. The fever, however, of most frequent occurrence in the Penitentiary has been that in which abdominal symptoms predominated, and in which, after death, not only the ileum, but the colon also, was found affected in various degrees.

The close alliance subsisting between dysentery and continued fever in London strongly impressed the mind of Sydenham. This is shewn not merely by his denominating a certain fever that was associated with dysentery the "dysenteric fever," but also by his oft-quoted remark that "dysentery was the very fever itself, with this sole difference—that it was turned inwards, and discharged from the system through the bowels."

A close connection, then, subsists between dysentery and fever; and the prevalence of dysentery, and of the bowel complaints allied to it, is greatest at those seasons, and in those states of the atmosphere, which most favour decomposition of organic matter in the soil. Now these two facts, together with the constant, or almost constant, presence of the disease in a mild form, and the absence of other causes capable of accounting for it, satisfy my mind that the dysentery observed in the Penitentiary at Millbank is really produced by malaria.

But several objections may be opposed to this conclusion. The first I shall notice is, that dysentery, or at all events, diarrhoea, is a common disease in prisons and workhouses, and in them appears to be produced by deficient nourishment; an increase in the diet having, it is said, in many instances, caused the disappearance of the disease.

To this objection I would answer, that the prevalence of bowel complaints in the establishment here referred to has not been caused by the poorness of the diet. During the summer of the year 1842, I visited many prisons, workhouses, barracks, and lunatic asylums, in various parts of England, with the view of gaining information which might

throw light on the origin of the disease prevailing at Millbank. And I found that the degree of prevalence of bowel complaints in the different establishments bore no constant relation to the poorness of the diet, any more than it did to defective ventilation, or impurity of the water which the inmates drank. Dysentery and diarrhoea prevailed in barracks and lunatic asylums where the dietary was abundant, and were absent from prisons in which the allowance of food was scanty. In many instances, too, where a salutary effect had been produced by an increase of the dietary, the bowel complaints, before rife, had only been rendered less prevalent; they had not disappeared. It seemed, therefore, impossible to believe that poorness of the diet was the primary and essential cause of the disease. On the other hand, I found that the frequency of bowel complaints in the different establishments I visited *did* bear a relation to the character of their sites. Where those complaints were of frequent occurrence, there the site of the building was low, the ground around it damp or imperfectly drained, and the subsoil often formed of peat or clay. Where bowel complaints were infrequent, the site was elevated, the soil dry, and the subsoil generally composed of gravel. The conclusion, therefore, I arrived at respecting the origin of bowel complaints in these different institutions was, that they were really caused by malaria, and that their frequency and severity had been affected by the diet only in so far as poorness of the diet had in some cases produced a great susceptibility of the influence of the malaria, and the subsequent increase of the diet diminished this susceptibility.

The second objection to the theory which ascribes the bowel-complaints prevalent in the Penitentiary to the influence of malaria, is that the inhabitants of the immediate neighbourhood do not suffer in a similar way. This is true. Even the private families residing in the Penitentiary are seldom at all affected with the prevalent bowel complaints, and very seldom indeed affected in a severe degree. But surely this is no valid objection. For it must be remembered that these free persons are living under conditions very different from those which surround the prisoners. They are not constantly confined to the atmosphere of the locality; they commonly drink in the course of the day some fermented liquor, as well as other stimulants of the nervous system, such as coffee and tea; their bodies are kept in a healthy state by active and voluntary exercise, and their minds by cheerful and varied trains of thought. The prisoners have none of these advantages. It might be expected, therefore, that the former class of persons would be insusceptible of disease

from causes which might affect the prisoners very generally. There is, indeed, nothing wonderful or remarkable in one class of persons enjoying a comparative immunity from the effects of morbid agents which prove hurtful, and even destructive, to those of another class. During the prevalence of almost every epidemic malady, we see that the poor are cut off, while the rich generally escape. And this has been especially observed of dysentery when it has been most destructive to our troops, not only in military campaigns during war, but also in time of peace, when the barracks have had unhealthy sites. The officers have been far less affected than the private soldiers.*

The consideration of these objections, then, tends by no means to weaken my conviction that the bowel complaints prevalent in the Penitentiary have been caused by malaria. On the contrary, it seems to me to render this theory more probable, since it shows why the effects of malaria on the prisoners have been so well marked, though the neighbourhood of the Penitentiary has not manifestly the features of a malarious locality.

For it has been asked, whence comes the malaria? There is, indeed, no marshy ground near the prison, no considerable extent of stagnant water: there are none of the more obvious sources of miasm. Still, if we examine closely the state of the ground around the Penitentiary, we find in it many points of resemblance to those tracts near the borders or mouths of rivers where dysentery is so often an endemic disease. The tracts of country to which I allude are low, and have a damp alluvial soil, containing much organic matter. Now such, in a less degree, is the character of nearly all the open ground around the Penitentiary. The building itself stands upon an artificial hill, but the surface of the surrounding ground is below the level of high water in the river. The soil is loose, and contains much organic matter, and the subsoil is formed in most parts of an imperfect clay, beneath which are alternate strata of peat-earth, marl, and sand. The ground has hitherto been imperfectly drained. But the chief defect of the site seems to consist in the beds of sand just mentioned being full of water, derived, in all probability, from rain which had fallen on distant and higher grounds. In rainy seasons this water rises through the many breaks in the superficial clayey stratum, and keeps the soil itself, at all events its deeper layers, in a very wet state. These characters show that the exhalation of miasms from the ground around the prison is by no means impossible. And there will, I think, be no

* Pringle, Diseases of the Army; Tulloch, Reports of the Health of the Troops; Annesley, Diseases of India,

difficulty in admitting even the probability that sufficient malaria is produced there to affect persons in whom, from mental as well as physical causes, the power of repelling the attacks of morbid agents is weakened. Indeed, that spot must be a remarkably healthy one where no disease attributable to malaria would show itself amongst persons in the condition of prisoners. And in the Millbank Penitentiary, at the periods when dysentery has chiefly prevailed, the prisoners' susceptibility of disease must have been unusually great, owing to the long terms of confinement then enforced. I believe, therefore, that the dysentery and other bowel complaints which have been prevalent in the Millbank Penitentiary are attributable to its site. But, at the same time, I must remark that the site is not an eminently unhealthy one: this, indeed, is proved by the fact, that the inhabitants of the neighbourhood, and the families residing in the prison itself, have seldom been affected with any disease attributable to an endemic influence; and I may add, that the site would never have been discovered to be other than perfectly healthy had not a prison been built there.

My remarks on the causes of dysentery in the Penitentiary and similar institutions have been extended; for my personal knowledge of the facts seemed to justify my entering into details on the subject. In speaking of the disease as it is seen under other circumstances, I shall be more brief, as my conclusions must here be drawn, for the most part, from the observations of others, and must consequently be less positive, and less entitled to attention. I cannot, however, altogether refrain from noticing the extremely unsatisfactory character of the doctrines generally propounded respecting the causes of dysentery*. It seems to be admitted by most writers on the disease that almost any agent capable of making an injurious impression on the body may produce dysentery. Some of these reputed causes of the disease we may, I think, safely reject. Such are, "acrid ingesta and irritating secretions from the liver, pancreas, and upper part of the alimentary canal," all of which have been supposed capable of producing the disease†. Such causes as these might occasion irritation of the parts of the canal through which they passed, and consequent purging, but it seems highly

improbable that they should produce a severe and rapidly destructive inflammation, confined to the part of the canal they would last reach, and commencing around particular elementary parts of the mucous membrane, namely, the solitary glands. The idea that the autumnal dysentery, diarrhoea, and cholera of this climate, are due to unripe fruit, or other acrid ingesta, if entertained, would be negatived by the fact, that the same complaints prevail during the autumn in prisons, where those causes do not exist, and prevail there to even a greater extent than among the free population. But such an idea is, I believe, no longer entertained by any educated member of our profession in this country. The medical officers of the army in India, however, still reckon the influences I have mentioned among the causes of dysentery; and this seems the more extraordinary when we consider the frequently extreme severity of the inflammation of the large intestine in the dysentery of India, and the acknowledged existence there of a general and more adequate cause for the disease, namely, a noxious state of the atmosphere.

Another class of the causes of dysentery admitted by most writers, comprehends mere high temperature of the atmosphere, or cold and moisture combined, or sudden alternations of heat and cold, and especially the suppression of perspiration by cold dews during the nights succeeding to hot days‡. But it is difficult to conceive why these causes should produce dysentery any more than any other internal inflammation, while it is obvious that a high temperature favours the rise of malaria from the soil, and that hot days and cold night-dews are characteristic of those countries and seasons in which malaria is most abundantly generated.

In India, and in all climates where dysentery is a frequent disease, the influence of the season and weather on its degree of prevalence is the same as I have shown it to be at Millbank. Its close alliance, too, with typhus fever, and with cholera, has been generally observed. Even the fatal Asiatic cholera which visited Europe fifteen or sixteen years ago, manifested a close relationship to dysentery. The transition of cholera into dysentery was often seen in particular cases, and the epidemic of cholera in several places passed gradually into epidemic dysentery. Moreover, although cholera was not essentially characterised by disease of the large intestine, yet in many instances it was attended by a lesion of that part of the canal very similar to the lesion characteristic of dysentery. This fact is illustrated by one of Cruveilhier's plates (*Livraison 14, Pl. 5.*)

* When this lecture was delivered, the author was not acquainted with the excellent article on dysentery, in the "Elements of Medicine," of the late Dr. Robert Williams.

† See Annesley, *Researches on Diseases of India*, vol. ii. p. 204, et seq.; Parkes, *Remarks on Dysentery*, &c. p. 131, et seq.; Copland, *Dictionary of Practical Medicine*, art. *Dysentery*, par. 70, 71, and 72; O'Brien on the *Dysentery of Ireland*, p. 24.

‡ Twining on *Diseases of India*, p. 2, 3, and 4; Annesley, *op. cit.* p. 244; O'Brien, *op. cit.* p. 24-26.

From these facts, then, as well as from the consideration of the whole character of the disease, I infer that dysentery is always produced by a poison introduced into the system from without, and that in most instances this poison is generated by the decomposition of matters contained in the soil. Many other of the reputed exciting causes of dysentery, such as intemperance, or exposure to cold, may have a share in the production of the disease; not, however, by acting as the efficient cause, but merely by disturbing the general health, and thus rendering the body obnoxious to the influence of the atmospheric poison which it previously resisted.

The most general source of the poison producing dysentery is certainly the surface of the ground, and the soils generating it in the greatest abundance are those which are rich in organic matter, and are imperfectly drained. But still there are facts which show that dysentery may be produced independently of the source of malaria just mentioned. It has not unfrequently broken out in ships at sea, especially in tropical latitudes. In these instances the poison of dysentery may have been produced as an exhalation from bilge-water, or from decaying vegetable or animal matters in the ship; or the water used for drinking may have become putrid, and the poison having been developed in it, may have been carried into the system through the stomach. For there is no difficulty in admitting that the same noxious matters commonly disengaged from the surface of the ground under the influence of heat and moisture may be produced by the decomposition of organic matter in water, and that the water containing them being taken into the stomach, and thence absorbed into the blood-vessels, may produce the same injurious effects on the body as result from the admission of those matters with the air into the lungs.

I must here also remark that there appear to be other conditions of the atmosphere besides heat and moisture which favour the development of malaria from the soil. The degree in which dysentery prevails in a particular locality is not always obviously proportionate to the circumstances which are known to promote the decomposition of organic matter, and the disengagement of the gaseous products of decomposition. Dysentery is in some years unusually prevalent over considerable tracts of country without any obvious cause. In these cases, however, the disease is especially severe and general in the spots where it is at other times endemic in a milder form, and where, from the character of the soil and disposition of the surface of the ground, the presence of malaria might be expected. In the same way, Asiatic cholera, when it visited Europe,

showed a preference for the banks of rivers and low moist spots, although some general state of the atmosphere was undoubtedly necessary to its production.

Some unknown state of the atmosphere, too, appears to have a share in determining whether the malaria shall produce a mild diarrhoea, a severe dysentery, cholera, or fevers of different kinds. For many of these diseases appear in the same locality at different times, without our being able to determine exactly why at a particular time one disease and not the others should prevail. Sometimes, indeed, two or more of these diseases coexist on the same spot, and it might hence be supposed that these variations in the effects of malaria are due to the greater or less intensity of action of the poison, and to varying states of the system of the persons on whom it acts. But this supposition would not accord with the fact that all forms of endemic disease are not met with in every malarious locality; that ague, for example, is never seen in certain spots where other endemic diseases are rife, and that in some localities where ague is prevalent other endemic maladies are absent. This fact, indeed, seems to show that there are as many distinct varieties of atmospheric poison as there are forms of disease belonging to the class of endemic and epidemic disorders.

I must notice still another question connected with this part of my subject; namely, how the poison, when it has entered the body, produces the diseased changes. Does it itself circulate with the blood, and on reaching the part of the body with which it has some chemical affinity disturb its normal composition, and thus excite diseased action? Or, does the noxious agent act at first on the blood and produce with some of the elements of that fluid a new compound which becomes the immediate cause of the local disease? This question in the present state of our knowledge it is impossible to answer; but it seems to me equally impossible to doubt that in dysentery as well as in fever the intestinal lesion is the effect of a chemical action taking place between the glands, or the tissue immediately surrounding them, and a morbid matter circulating with the blood. The time, perhaps, will come when chemistry shall be able to detect the subtle agents which produce these and other disorders in our bodies, and shall explain the play of affinities which, disturbing the normal constitution of particular parts, causes destructive inflammation to arise in them.

The poison of dysentery and that of typhoid differ much in their action on the human body. The poison of fever has an especial affinity for the glands of the small intestines, and also produces almost immediately an evident change in the constitution

of the blood. The poison of dysentery attacks the glands of the large intestines, and in the more common sthenic form of the disease produces no obvious change in the condition of the circulating fluid. There is, however, as we have before seen, an asthenic variety of dysentery in which the blood does apparently undergo a change in its composition and vital properties; and here we must suppose that the poison of dysentery is modified in its properties, or that it is combined with some other noxious matter capable of disturbing the normal constitution of the blood.

It remains to inquire what cause or causes produced those *nervous disorders* which at different periods have appeared amongst the prisoners in the Millbank Penitentiary. How has it happened that disorders of this kind have shown themselves prominently in connection with dysentery only in that establishment?

The first important fact to be noticed in relation to this inquiry is, that these nervous disorders have not been constantly prevalent in the institution. They have appeared only at those times when dysentery was epidemic in the prison, or was about to become so. This fact suggests the inference that some alliance exists between the cause of the dysentery and the influence giving rise to these nervous disorders: an inference which is strengthened by another important fact, viz. that tetanus and neuralgia have been observed as endemic diseases in malarious countries.

With respect to tetanus, no doubt exists but that it is far more common among adults in hot climates than in temperate ones, and in hot seasons than in those that are cool; while the tetanus or trismus of infants is seen chiefly in pestilential countries, such as the West Indies, and in temperate climates only under circumstances which favour the belief that it is produced by a noxious state of the atmosphere. Now it has been observed that the adults attacked by idiopathic tetanus in hot climates are for the most part persons who have suffered hardships, or have been more than usually exposed to the deleterious influence of the climate. The infants we may suppose to have been predisposed to suffer from the disease by the delicacy of their whole constitution, and especially by the excitability of their nervous system.

Will not these facts help us to explain the occurrence of peculiar nervous disorders in the prisoners at Millbank? Besides confirming the opinion that the efficient cause of these disorders is some kind of malaria, do not these facts also render it probable that a peculiar state of the system of the prisoners has predisposed them to be thus peculiarly affected by a cause which

would have produced no such symptoms in other persons?

We have already seen that the effects of imprisonment on the nutritive system are such that severe inflammation and change of structure is produced in the prisoners by a morbid influence which does not affect free persons who are equally or almost equally exposed to it. May not imprisonment so affect the nervous system, likewise, as to give it an extreme excitability comparable to that which predisposes infants to suffer from trismus under the influence of malaria?

If we consider for a moment the effect which long-continued exclusion of light has on the eye, the great sensibility of that organ which results, so that it cannot bear ordinary daylight, suddenly restored, without pain, or sunlight without danger, we shall, I think, find it reasonable to expect that the whole nervous system of prisoners who have been very long confined in complete or almost complete seclusion from society and from all the ordinary sources of mental excitement will manifest an exaggerated sensibility to the influence of unusual stimulants. At all events, facts have occurred during the last few years which prove the existence of this sensitive state of the nervous system in prisoners under such circumstances.

Prisoners sentenced to transportation after being confined for a longer or shorter time in Government prisons in a state of the greatest order and silence, deprived of the society of their fellows and of all the causes of excitement to which they had been accustomed, have been suddenly transferred to convict ships in the river, where they have been thrown together without discipline or restraint of any kind, and exposed to the additional excitement of the parting with friends, and to the tumult which must exist in ships preparing for sea. The effect of this sudden change has been that many of the prisoners have been thrown into fits of epileptic convulsions: not merely men and women previously subject to epilepsy, but those who had never before suffered from the disease, have been so affected. This has occurred, not once only, but several times, many prisoners being attacked with epilepsy in each ship.

It is only during the first few days after embarkation that these symptoms of disordered nervous system have been observed; and no serious consequences have been left. But although so temporary, these phenomena are important from their proving that imprisonment in a state of seclusion induces, for a time at least, an enfeebled, and in consequence highly excitable state of the nervous system.

Now both in the year 1823 and in the year 1842, when the nervous disorders as-

sociated with dysentery occurred in the Penitentiary, the terms of confinement to which the prisoners were subjected were much longer than at present. We may therefore, I think, fairly infer that the excitability of the nervous system of the prisoners was at those times proportionably great.

Can we not now explain the occurrence of the nervous disorders in the Penitentiary? We have seen that they were associated there with other disorders due to the influence of malaria; and that in hot and unhealthy climates analogous nervous affections are met with, in adults of enfeebled frame, and in infants whose nervous system is naturally sensitive. We have seen too that the nervous system in prisoners is brought by confinement to a similar sensitive state; and is it not the natural conclusion from these facts that the peculiar nervous disorders seen in the Penitentiary were due to the action of an atmospheric poison of the nature of malaria on persons in whom the nervous system was rendered thus excitable?

My account of the dysentery observed at the Millbank Penitentiary would be incomplete if I omitted to notice the remedial measures which have been found most efficacious in the *treatment of the disease*. I have here no novel mode of practice to announce. But still, the plans recommended by different authors for the treatment of dysentery being so various, it may be of some interest to the College to learn which of these plans has best answered the wishes of the physician in an instance where the disease has presented well-marked characters, and has prevailed, not in one season merely, but through several years.

I shall first speak of those more numerous cases in which the disease had, for the most part, the characters of a simple inflammation of the larger bowel, this inflammation varying in severity, but being attended by no morbid state of the system at large except symptomatic fever.

The chief means I have found successful in these cases, and the means which have rarely failed, where the dysentery was not complicated with some other diseased state, are bloodletting, the administration of calomel with opium, and gentle aperients.

General bloodletting has seldom been required, but free local bloodletting by means of leeches has never been omitted when there was well-marked tenderness of the abdomen, or, in the absence of tenderness, when the other symptoms indicated the existence of active inflammation in some part or other of the large intestine. The application of leeches, in the number of twelve or twenty-four, has been repeated several successive times at intervals of some

hours, when the symptoms were urgent, and were not readily subdued by the means first used.

The calomel and opium have generally been administered in doses of two grains of the former, and one-third or half a grain of the latter medicine, every three, four, or six hours, as long as the character of the evacuations and the state of the local and general symptoms indicated the existence of inflammation, or until the state of the gums showed that the system was affected by the mercury. In the more severe cases the production of this effect on the system to the full extent was required; but when the disease was of only moderate severity it was generally subdued so quickly, that the mercurialization of the system to a further extent than was manifested by a slight swelling and tenderness of the gums was unnecessary.

Mild aperients also have been found most useful in perhaps the majority of the cases, but especially in those where the lower part of the large intestines was the seat of the disease, and where the feces were retained, so that the evacuations consisted almost entirely of mucus tinged or mixed with blood. In these cases the administration of one, two, or three drachms of castor oil has produced free feculent evacuations, and has afforded great relief to the symptoms. The beneficial effect produced by the action of this mild aperient medicine has often been very remarkable, greater than I know how to explain; while evil seemed always to result from allowing more than twelve hours to pass without obtaining a free feculent evacuation, if the frequent discharge of bloody mucus and other signs still indicated the persistence of inflammation. In many cases, however, no aperients whatever were required, free discharges of the feculent contents of the bowels taking place spontaneously. Indeed, where the cæcum and ascending colon were the seat of the disease, the active stage of the inflammation was almost always attended with copious discharges of liquid feces, and the subsidence of the inflammation was in great measure evidenced by the less frequent occurrence of these discharges, and their less liquid character.

Very rarely indeed was a more active purgative than castor oil found requisite in the acute stage of dysentery. In some instances, owing to the irritable state of the stomach, small doses of saline purgatives have been substituted for the castor oil; but whenever they have acted with much violence they have seemed to do harm. I have, indeed, seen nothing to encourage me to a trial of the plan of treating dysentery by active purgatives, recommended by some writers who have practised in India.

At one time I thought the use of even local bloodletting might in a great measure be dispensed with, and that the inflammation in the large intestine might be wholly subdued by means of calomel, administered in doses of five, ten, or fifteen grains, combined with more or less of opium according as there was a disposition to the retention of the feces, or to the discharge of frequent, liquid, feculent evacuations. And assuredly the disease was often very speedily arrested by this plan of treatment; the system being quickly brought under the mercurial influence, and the general as well as the local symptoms of inflammation disappearing as soon as the dark-green discharges produced by the calomel took the place of the bloody and mucous, or of the very liquid, though feculent evacuations. I have subsequently, however, seen reason to prefer the more moderate administration of calomel, aided by free local depletion, as a safer and indeed more sure method of reducing the inflammatory action. In the most severe cases of acute inflammatory dysentery occurring in the Millbank prison, one or two large doses of calomel are still given at the commencement; but afterwards the administration of this remedy is continued in smaller doses. I have relinquished the use of large doses of calomel as the general mode of treatment, not only because it was uncertain in its effects on the disease, and because the pyælium produced was sometimes very troublesome, but also because the violent mercurial action, in some cases, seemed to cause serious injury to the system, and to lead to the development of tubercular disease. I should here remark, too, that calomel, even in small doses and combined with opium, has in some cases increased the irritation of the large intestine; and that great advantage has then resulted from substituting for the calomel the grey mercury with chalk, of the *Pharmacopœia*, in combination with Dover's powder.

When the symptomatic feverishness was considerable, the skin was generally dry as well as hot. And then some benefit has been derived from the use of antimony, ipecacuanha, and other diaphoretic remedies. But ipecacuanha has wholly failed in my hands as a specific, or in any way active, remedy for the disease.

The local bloodletting, the calomel and opium, and the mild aperients, were the remedies to which the physician looked for the cure of the disease. But there were other remedial means from which the patients in many cases derived more sensible relief from their sufferings. To those means, however, of which the principal were opiate enemata to relieve the tenesmus, large warm poultices to the whole abdomen, and medicines to allay sympto-

matic vomiting, I can merely thus briefly allude. I must, however, remark that whenever, from the age or debility of the patient, it appeared desirable to give moderate quantities of a stimulant, such as brandy, no harm ever resulted from its use. On the contrary, a beneficial effect was produced, however active the local inflammation might be. It may be thought that this was owing to the prisoners having been weak from long continued confinement. But there was no strongly marked sign of such weakness, and, when general bloodletting appeared to be called for, it was borne well. Indeed, the principal reason for preferring local bloodletting, even in severe cases, was that it seemed to be more efficacious, and not that any symptoms contraindicated general depletion.

I need scarcely say, that the diet allowed in the earlier stage of dysentery consisted merely of milk and farinaceous articles of food.

Such is the plan of treatment which has been found best adapted to cure the simple acute dysentery quickly, and without injury to the constitution of the patient. It differs from the plan which was found so successful by Dr. Latham and Dr. Roget in the year 1823, chiefly in greater use being made of local blood-letting, and in the main reliance not being placed on the large doses of calomel and opium. This difference in the treatment is, indeed, the necessary consequence of the disease having presented a well-marked inflammatory character during recent years, while in the epidemic of 1823 this character was for the most part wanting.

There have of course been many slighter cases, in which the more active remedial measures were not needed—where no distinct tenderness of any part of the abdomen indicated the necessity of applying leeches, and where the mildness of the symptoms rendered it unnecessary to use the mercurial remedy to the extent of affecting the system in the slightest degree. These cases were generally characterized by moderate tormina, rather frequent evacuations containing some bloody mucus, temporary tenesmus after each action of the bowels, loss of appetite, and thirst; and these symptoms were soon relieved by two or three doses of calomel with opium, and the more continued administration of an oleaginous mixture, which was composed of mucilage, with a small quantity of castor oil intimately diffused through it, and to each dose of which a few minims of laudanum were generally added. This castor oil mixture I found in frequent use when I first visited the prison, and I have since had constant opportunities of observing the good effects it produces. Its virtue seems to depend on the mild oleaginous purgative

being so subdivided that it acts as a moderated stimulus on a large extent of mucous membrane, instead of exerting a more powerful irritating influence on particular parts.

These very mild cases of dysentery are frequent in London during almost every autumn. If not carefully distinguished from the common diarrhoea, and if treated with the aperients and aromatics which so soon arrest the latter disorder, they are, according to my observation, very apt to assume the chronic form, and to be productive of long-continued annoyance and suffering to the patient.

Both in this milder form of dysentery and in the stage of subsidence of the more active form of the disease, strict attention to diet has appeared to me to be of paramount importance. No other influence has so frequently seemed to re-excite the inflammation in the intestine, or to cause the disease to assume a chronic form, as the too early indulgence of the appetite with meats, broths, or succulent vegetables. I have always found it better to withhold these articles of diet, if possible, till the mucous membrane has regained its healthy condition.

At a very early period of the decline of the disease, cretaceous and aromatic medicines, generally combined with more or less of opium, were given with advantage; and, if the disease became chronic, various tonics and astringents were combined with the aromatics and opium. The astringents most frequently found useful were the tincture and infusion of catechu and the sulphate of iron; but other medicines of the same kind, as the sulphates of zinc and copper, acetate of lead, and cinchona bark, were occasionally employed; one astringent often proving efficacious when others failed, and each, in turn, gradually losing its power after its use had been continued for a more or less considerable period. But, although astringent medicines are most valuable means in the treatment of chronic dysentery, their action, according to my observation, should never be carried so far as to produce actual constipation of the bowels, for this has almost always been followed by an aggravation of the disease. Opiate remedies, too, though generally highly serviceable, and even essential, have sometimes arrested the secretion or excretion of the bile, and have thus produced an injurious effect on the local disease as well as on the general health of the patient. In such cases it has been found necessary either to omit altogether the use of opium, or, diminishing its dose, to combine with it some dandelion or rhubarb. Other details of the treatment of chronic dysentery I cannot enter upon here; but I

must remark that strict attention to diet has appeared to me of as great importance in the chronic as in the acute stage of the disease. Animal food and vegetables have been allowed in very moderate proportion, and have been altogether withheld when increased frequency and liquidity of the stools indicated the accession of fresh irritation in the large intestine.

Astringent and aromatic remedies being judiciously employed, and great precautions as to diet being taken, few cases have failed of being cured, except where, as not unfrequently happened, the disease was complicated with the tubercular cachexia. Even when large portions of the coats of the intestine had been discharged from the bowels as sloughs, perfect recovery has taken place in so short a space of time as to prove the great and rapid power of healing possessed by the mucous membrane.

The intractable character of chronic dysentery, as it is seen in persons who have contracted the disease in hot climates, seems to be owing not simply to the extent of the intestinal lesion, but in a great measure to the impaired condition of other abdominal viscera, such as the liver and spleen.

I should not omit to mention that, at various periods in the course of inflammatory dysentery, other enemata than the simple opiate and demulcent ones already alluded to have been found of great service. This has happened when the inflammation has been very severe in the lower part of the large intestine, when the pain and tenesmus has been great, and the discharge of the bloody fluid and mucus very frequent, and when simple opiate enemata have failed to alleviate these symptoms. In these cases the injection of a few ounces of black wash, with a drachm of laudanum, has often given great relief, and has appeared to check the inflammatory process.

Other stimulant injections, as solution of nitrate of silver, have appeared useful under similar circumstances, but on the whole the black wash with laudanum has been found the preferable remedy. At a later stage, when the inner coat of the bowel, having mortified, was becoming detached, similar stimulating injections have appeared to aid the process of separation, and the healing of the solutions of continuity. At all events, the discharges from the bowels, during their use, have become more healthy. Advantage has been derived also from these remedies, especially from injections of a weak solution of sulphate of zinc, when, in the still more chronic stage of the disease, a copious secretion of purulent fluid has taken place from the ulcerated surface of the lower bowel. The discharge has rapidly diminished in quantity, and there has been every possible

evidence that the healing of the ulcers was promoted.

The remarks I have hitherto made on the treatment of dysentery apply to the very large majority of the cases,—to those in which the disease has seemed to be a purely local inflammation, and in which the feverishness has not been more than might be symptomatic of the local lesion.

The treatment of the comparatively infrequent but much more formidable cases in which the mucous and submucous coats, in extensive tracts, rapidly pass into the state of sphacelus, I have found to be a matter of much greater difficulty; the altered state of the blood apparently rendering the use of active remedial means inadmissible.

According to my observation, calomel in large doses is not well borne in these cases, and blood-letting, to an extent proportioned to the severity of the local lesion, would be fatal to the patient. Even local blood-letting, when not very cautiously used, has appeared to increase the debility without producing much relief to the local symptoms.

Still I am satisfied that cautious local depletion and small doses of a mild form of mercury are means which ought to be used in the treatment of this formidable disease. Diaphoretics, too, especially ipecacuanha and the warm bath, have appeared to produce a most beneficial effect. But all these remedies generally fail of saving the patient, and they would probably always fail unless they were combined with measures adapted to support the strength of the system. Wine and beef-tea, which in the simple inflammatory form of the disease would be hurtful, must be administered freely. In fact, we are obliged to treat the disease with reference rather to the state of the system generally, than to the condition of the inflamed intestine.

With all our caution and all our endeavours, however, these cases will generally terminate fatally; if not in the acute stage, yet in the chronic stage, when, the dead mucous membrane having been thrown off, a constant oozing of the serous part of the blood from the extensive surface of exposed tissues gradually exhausts the patient's strength.

The intractable nature of this disease when fully developed, and the rapidity of its course, make us indeed wish with Sydenham that more specific remedies were discovered; that by their means, not only the cure might be more immediate, but that, in such diseases as the one just now under consideration, the poison admitted into the system might be destroyed, before it had produced in particular organs those deadly effects which Sydenham and the older writers supposed nature to bring about unwillingly, in her efforts for the expulsion of the morbid matter.

The prospect of such a remedy being discovered, even for dysentery, is not altogether desperate, for we possess a specific remedy for a disease which has a cognate cause, and which is frequently combined with dysentery, namely, ague. The knowledge of the specific virtues of Cinchona bark we do not, it is true, owe to medical science, but we must remember that not many years have elapsed since the discovery of a new specific for another disease, syphilitic perioritis, rewarded the zeal and perseverance of a late respected fellow of this College.

TREATMENT OF PLACENTA PRÆVIA.

SEVENTEEN instances have been recorded in the English journals during the past fifteen months, of detachment of the placenta before the birth of the child in cases of placenta prævia. In the case recorded by Dr. Simpson, to whom it had been communicated by Mr. Cripps, the placenta was removed by an ignorant midwife, and ten hours elapsed before the child was born, during which time, however, no hæmorrhage took place. In 16 out of the 17 cases the bleeding is said to have ceased immediately on the detachment of the placenta; but Dr. Everitt mentions that, although the flooding abated on the separation of the placenta, it did not entirely cease until after the application of cold externally; and he insists on the fact as proving that in cases of this kind the hæmorrhage comes from the uterine as well as the placental ends of the lacerated veins. The life of the mother was preserved in every case but one, and then the previous hæmorrhage had been so profuse as almost to exhaust the patient, who died three hours after delivery. All the children were still-born, except in the case related by Mr. Stickings. [As far as the well-doing of the mother is concerned, the results of these cases must be regarded as favourable; but, on the other hand, the lives of 17 out of 18 children were sacrificed, at least half of whom would probably have been saved by the ordinary practice. In many instances, too, there appears to have been no reason why the child was not turned and extracted first, the os uteri having been well dilated, or yielding and dilatable. In such cases it seems not unfair to assert that the child's life was sacrificed to the desire of performing a new operation. Several of the cases are so loosely worded that little can be gathered from them, while some have either been so carelessly observed, or so incorrectly related, as to render them quite untrustworthy.]—*Dr. West's Report on Midwifery*, 1845-6.

Original Communications.

ON THE
INHALATION OF THE VAPOUR OF
ETHER.

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[Concluded from p. 502.]

IN those instances in which I have watched the pupil of the eye narrowly, I have observed it to dilate, as the patient is getting under the influence of the vapour. This dilatation is, however, but transitory, and the pupil usually becomes somewhat contracted, and the eye turned up as in sleep, as soon as the patient becomes insensible to pain. The breathing at the same time becomes deep, slow, and regular, and there is an absence of voluntary motion and a relaxation of the muscles, the orbicularis muscle ceasing to contract again on the eyelids being raised by the finger. An operation may be commenced in this condition of the patient, with confidence that he will remain as passive as a dead subject. This having been found to be the case, in order to maintain the insensibility without further increasing it, I am in the habit of partly turning the two-way tap to dilute the vapour; and it has seemed to me that by turning it about half way, so as to admit an equal quantity of external air, and reduce the vapour to about 25 per cent., that object has been attained: but a more extensive experience is required on this point, and perhaps the proportion required may vary in different patients. This method of continuing a more diluted vapour I have found to keep up the insensibility better than leaving off the process and resuming it by turns. But if the respiration becomes too slow, or at all stertorous, or if the pulse becomes very small or feeble, the nostrils should be at once liberated, and the admission of fresh air will afford immediate relief. I should think it unsafe to fasten a mask on the face, by means of a strap and buckle going behind the head, or to use any means that would interfere with the instantaneous admission of

air, for on one occasion I saw an animal killed by ether by a momentary delay. It was placed in a small glass jar, and when it appeared to have had as much of the vapour as it could bear, I attempted to take it out, but could not reach it with my fingers, and whilst turning round for some means of extricating it, it expired.

In nineteen cases out of twenty in which the pulse was carefully noticed, it increased in frequency during the inhalation, often very much, becoming as frequent as 180 in the minute in some patients in whom, from debility, it was frequent before the process began. Generally the pulse has also become smaller and more feeble. In one instance, that of a lady reduced in strength by malignant disease, it became smaller, but not more frequent; and as soon as the inhalation was discontinued, it became fuller and stronger than before the inhalation began. The pulse generally recovers its volume almost directly the inhalation is discontinued; in several instances, as in the above, becoming stronger than before: but it remains frequent for some minutes. The immediate effect on the circulation, of the absorption of the vapour in the lungs, appears to be an impediment to the flow of blood through the pulmonary capillaries. Less blood reaches the left side of the heart to be sent into the arteries, which diminish in caliber, but the heart contracts more frequently in order to keep up a supply. The escape of the vapour from the blood again seems to exert a contrary effect on the circulation, as evidenced, in general, by the pulse. I may perhaps be allowed to make a quotation bearing on this subject from a paper of mine in the *MED. GAZ.*, vol. xxxi. :—"Assafœtida, ether, various essential oils, camphor, and other volatile medicines, relieve difficult and impeded respiration. They are all separated from the blood in the lungs, and escape with the breath. increasing very much the quantity of vapour which exhales from the pulmonary capillaries, and thus giving additional impetus to the blood: in this way lessening congestion and relieving its distressing symptoms. As this class of medicines promote the function of respiration, I will venture to call them diaphnetics, from *δια* and *πνέω*."

I have seen two cases in which the depressing effect of the inhalation was considerable, and was not followed by reaction directly it was discontinued. As this appears to have been the case in the instance attended with a fatal result at Colchester, and related in the *MEDICAL GAZETTE* of the 5th inst., it may be desirable to enter into the particulars of one of these. A lady, 41 years of age, in pretty good general health, the patient of Dr. Frederick Bird, inhaled ether on the occasion of having a tumor removed connected with the external generative organs. She inhaled for eight minutes, during which time it was observed that the respiration was feeble and slow. The pulse, however, which had been about natural before the inhalation, became feeble and very frequent, and the patient began to struggle as if suffering from want of breath; the process was discontinued, although she did not appear insensible, and the operation was commenced. She flinched and cried out at the first incision, although she did not afterwards remember the pain. She became very faint during the operation, although there was but little loss of blood, and it was necessary to give brandy, and lower the head to the horizontal posture. Consciousness soon returned, and as some sutures were made in the skin, she spoke coolly of beginning to feel a little pain. The feeling of faintness continued more or less all night, but her recovery was very good. The apparatus in this instance was placed in water at 70°, being lower than the temperature of the room. Two fluid ounces of ether were put in, and three drachms remained; consequently 13 drachms were inhaled, equal to about 709 cubic inches of vapour; and as it was washed ether, each 115 cubic inches would be combined with 100 cubic inches of air; consequently only about 616 cubic inches of air were breathed, making 1325 cubic inches of air and vapour: but in eight minutes the patient ought to have breathed about 2400 cubic inches of air alone. The ether in this instance appeared to act as a sedative to the function of respiration, and the small amount of air breathed may perhaps account for the depressing effects.

In two or three instances there have

been some struggling and a distended state of the superficial veins, the skin being rather purple, and the conjunctivæ somewhat injected. In one instance this seemed to arise from cough being excited by the vapour, on account of the bronchial membrane being in an irritable state, and in the others I believe it arose from obstructed respiration, which in future may be avoided, rather than from the direct effect of the vapour. By the kindness of the surgeons to St. George's Hospital, I have had the honour of giving the vapour of ether at thirteen surgical operations—most of them important ones—in the hospital during the last six weeks, having the valuable advice of the surgeons, and occasionally also of one or two of the physicians to the hospital, to aid me in so giving it. It has been successful in altogether preventing pain in all the cases but one or two, and even in these there was but very little of the pain that there otherwise would have been; and there have been no ill effects of any kind following the inhalation of the ether. I allude to these cases to remark that five of the patients were children of various ages, from the fifth year upwards, and that they inhaled more easily than the adults generally did; that they were more quickly affected, generally becoming quite insensible in less than two minutes, and always without any of the struggling which sometimes occurred in the adults. For a variety of reasons, and from close observation, I have arrived at the conclusion, that this difference has not arisen strictly from a different effect of ether on subjects of different ages, but from a cause within our control. The same inhaler was used in all, consequently the tubes were wider in proportion for children than for adults. I have described all the passages of the apparatus as not less than five-eighths of an inch in diameter; but such is the description rather of what I wanted than of any instrument I have used. Valves and tubes such as were already in existence have been made use of, and the caliber in some part of its extent has always been contracted to half an inch, and this I consider only enough for a child, but not for the adult. As only half, and often not so much as half, of what is inhaled is air, it is particularly requisite that the

tubes should be wide. I am now getting elastic tubes, valves and mouth-tubes, made purposely for the apparatus three quarters of an inch in diameter, as wide, in fact, as the barrel of a fowling piece, and intend to give ether as fair a trial in adults as hitherto, I believe, it has had in children only.* The pipe admitting air to the ether will be five-eighths, and all the passages for the air expanded by vapour, three-quarters of an inch in diameter. It may be supposed that there is no occasion to make the tubes larger than the trachea, but something ought to be allowed for the friction of the air against the interior of the tubes.

With respect to the psychological phenomena produced by ether, I have observed that consciousness seems to be lost before the sensibility to pain, and if an operation is commenced in this stage, the patient will flinch, and even utter cries, and give expressions of pain, but will not remember it, and will assert that he has felt none. Metaphysicians have distinguished between sensibility and perception—between mere sensation and the consciousness or knowledge of that sensation, though the two functions have, as they supposed, always been combined. Ether seems to decompose mental phenomena as galvanism decomposes chemical compounds, allowing us to analyse them, and showing that the metaphysicians were right. During the recovery of the patient, consciousness, which first departed, generally returns first, and the curious phenomenon is witnessed of a patient talking, often quite rationally, about the most indifferent matters, whilst his body is being cut or stitched by the surgeon. I have never seen this insensibility to pain during the conscious state except where consciousness had been previously suspended. In the paper on the capillary circulation, in the *MEDICAL GAZETTE*, to which I have alluded above, I offered the opinion that the pain of inflammation depended on a great increase of the natural sensibility of the inflamed part. Under the influence of ether we sometimes see the converse of this, viz. what would be pain reduced to an ordinary sensation; thus, some patients, whilst re-

covering their consciousness, feel the cuts of the surgeon without the smart. A nobleman, the patient of Mr. Tracy, of Hill Street, Berkeley Square, described the lancing of an abscess as the sensation of something cold touching the part; the manipulation of the abscess, which at another time would have been painful, he did not feel at all.

If the patient will remain silent during his recovery from the effects of ether, as he generally will, it is better not to trouble him with questions till he has perfectly regained his faculties, as conversation seems to increase the tendency to excitement of the mind that sometimes exists for a few minutes as the patient is recovering from the effects of ether. This kind of inebriation is sometimes amusing, but is not a desirable part of the effects of ether, more especially on so grave an occasion as a serious surgical operation; and therefore anything that may prevent or diminish it is worthy of attention. The children have all appeared to recover their consciousness very quickly, and without any kind of aberration of mind.

Any organic disease which impedes the flow of blood through the heart and lungs would seem to contraindicate the exhibition of ether by inhalation, and I should consider a hurried state of the circulation, such as that induced by strong labour pains, likewise to offer an objection to the process.

It was my intention to make some remarks on the probable way in which ether acts in suspending sensibility; but, as what I have already written is probably sufficient for one article, I will reserve that part of the subject for a future communication, and will be content, at present, to refer to a short abstract of some of my experiments and opinions which appeared in the number for Feb., 26.

In concluding, however, I should wish to observe that I am inclined to look upon the new application of ether as the most valuable discovery in medical science since that of vaccination. From what I have seen, I feel justified in the conclusion that ether may be inhaled for nearly all surgical operations, with the effect of preventing pain, not only with safety and without ill consequences, where due care is taken, but in many cases with

* Since the above was written, I have used three large tubes, and found them to answer my expectation.

the further advantage of improving the patient's prospect of recovery; the pain of an operation forming often a considerable part of what renders it dangerous, and many patients after ether, having seemed to recover better than might, without it, have been expected. In the amputations performed at St. George's Hospital whilst the patients were under the influence of ether, it has been remarked, as was stated by Mr. Cutler, on Feb. 11th, that there has been an absence of the painful spasmodic starting of the stump, which usually renders it necessary for a nurse to sit and hold it for some hours after the operation.

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OBSERVATIONS ON THE DISEASES OF CHILDREN.

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and Physician to the Western Dispensary.

[Continued from p. 187.]

On the prevention of the marks on the face, and the ophthalmia occasioned by small-pox in the natural form.

As small-pox is still occasionally met with in the natural form, and, when permitted to pass through its suppurative stage over the face, found to be followed by permanent marks, which disfigure the patient, in consequence of the destruction of the cutis vera in the parts affected, it is desirable to adopt some means to obviate such a disagreeable result. This disease having lately appeared in a severe and natural form among some of the poor children in Westminster, I have taken advantage of the opportunities afforded me of ascertaining by experiments that the suppurative stage of variola may be, by external treatment, so far modified that sloughing of the true skin, on which the variolous marks depend, and the usual effects of variolous ophthalmia may be prevented. The application to which I allude is the strong mercurial ointment. Some time ago, Serres and Biquet advised mercurial plaster spread on leather to be applied on the face on the second day of the eruption, and Ung. Hydrargyri to be introduced

between the eyelids, by means of which treatment they found the process of pustulation to be arrested. I am not aware that this practice has been adopted, or carried to any extent, in this country, but I was always prepossessed in favour of this treatment by observing the influence of mercury in modifying some forms of inflammation in the skin and subjacent cellular membrane. The manner in which mercury appears to me to operate in these cases, is by stimulating the capillary vessels, and thereby diffusing the obstruction in their circulation, and removing the primary condition essential to the generation and deposit of pus, as it does so successfully in the treatment of phyma, erythema nodosum, and some forms of phlegmonous erysipelas in their incipient stage. The mode in which I recommend the mercurial ointment to be applied, is to have it spread over the face and eyelids every evening about bed-time, beginning on the second or third day of the eruption.

Experiment I.—1847, Jan. 14: M. Knight, æt. 2, was admitted a patient at the Western Dispensary with confluent small-pox on the third day of the disease. She had not been vaccinated. The upper eyelids were greatly swollen from the inflammation accompanying the eruption, and the child was consequently unable to see. I prescribed the application of Ung. Hydrarg. fort. to the whole face, including the surface of the eyelids, every night.

18th.—The pustules greatly enlarged, and becoming distended with pus on all parts of the surface except the face, where they assume the appearance of modified small-pox, remaining small, and being converted into dry scabs. The usual intumescence of the face, as observable in confluent small-pox, entirely absent. The ophthalmia has subsided, and the swelling and closure of the eyelids are removed.

20th.—The pustules on the body and extremities present the mature appearance characteristic of natural confluent small-pox. The eruptions on the face consist of dry, dark brown scabs, which have no fluid beneath them, and are beginning to exfoliate.

Experiment II.—1847, February 4:

Henry Pymont, æt. 2, was admitted a patient of the Western Dispensary with distinct natural variola on the second day of the eruption. I directed the application of Ung. Hydrarg. fort. every night over the face and eyelids.

10th.—The eruptions on the face afford the same appearance as those of modified small-pox; no enlargement of, nor suppuration in them having occurred, and dry-brown scabs having formed. Those on the rest of the body have acquired the usual magnitude, and are filled with purulent matter. All appearance of ophthalmia gone.

26th.—The marks left on the face, like those left by small-pox modified by vaccination, are so trifling as scarcely to be perceived.

Experiment III.—1847, February 5: George Selborne, æt. 8, was admitted a patient of the Western Dispensary with natural distinct small-pox. The eruptions first appeared on Feb. 1.—Ung. Hydrarg. fortius to be applied to the face and eyelids every night.

8th.—Eruptions on the face fading and scabbing without undergoing supuration. Those on other parts of the surface have progressively increased in size, and are suppurating in the usual manner. No ophthalmia.

March 10th.—The patient was examined by me to-day, when I could discover no more disfiguration of the face than such as is found after modified small-pox.

Experiment IV.—1847, February 16; Joseph Selborne, æt. 5, brother of the last boy, was admitted a patient of the Western Dispensary with natural small-pox, on the second day of the disease.—Ung. Hydrarg. fortius to be applied to the face and eyelids every night.

23d.—The eruptions on the face have begun to fade, and become dry, without any suppuration having taken place. Those on other parts are very large, and full of purulent matter. No ophthalmia.

March 10th.—I examined the patient, and found no marks on the face, except such superficial temporary appearances as are met with after modified small-pox.

47, Chester Square,
March 12, 1847.

THE SCOTCH EPIDEMIC FEVER OF 1843-4.

By JOHN RICHARD WARDELL, M.D. Ed.

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[Continued from p. 277.]

X.—*The tongue was generally covered (except at apex and edges) with a thick pasty, dirtyish, yellow white-looking coat, mostly moist: at least, seldom so dry as we frequently observe it in genuine typhus.*

THE state of the tongue in febrile diseases has always been regarded with the greatest attention; nor is there any symptom, with the exception of the pulse, upon which we place more reliance: it affords correct information respecting the secretions and the degree of disorder induced in the system by excessive circulatory action,—considerations of paramount importance in guiding our treatment of this class of disease. In the seven days' fever, it presented an appearance very different from that usually noticed in typhus and the other forms of continued fever common to this country: indeed, so striking was this particular feature of the distemper, that all who saw much of the epidemic concurred in considering its condition as one of the many peculiarities which gave a distinctive character to the affection. In typhus, the tongue at an early period assumes a brownish hue, feels dry and roughish to the touch, becoming darker and more parched as the disease progresses; there is a want of natural moisture in the adjacent parts, and the teeth often become covered with sordes. In the epidemic, the mouth was unusually moist, and the tongue well nigh always loaded with the fur as described above; the latter indicating that the gastro-mucous membrane was much affected. This coat was the thickest, and also of a darker hue, sometimes being of a brownish yellow towards the posterior part, and two or three deep irregular longitudinal fissures were frequently present. The tip and edges, as stated, were for the most part clean,—often preternaturally so, exhibiting a rose-red or crimson tint, in this particular in some measure agreeing with the accounts given by Jackson, Thompson,

Gillkrest, and others, who have recorded the yellow fever. In the jaundiced cases, as may be anticipated, the fur was of a far deeper yellow. During the two or three days preceding the crisis it would become dry; but as soon as the critical sweat supervened, it quickly became moist, and the thick pasty coat rapidly disappeared. On the setting in of the relapse, the fur was readily again present, manifesting little, if any, dissimilarity to the appearance noticed in the first attack, until the crisis, as before, restored the organ to a more natural state.

XI.—Pregnant women at all periods of gestation invariably aborted, or were prematurely delivered.

So invariably did miscarriage and premature delivery take place, that throughout the whole duration of the epidemic, — a period extending over at least fourteen or fifteen months, — I never discovered even a solitary instance of the impregnated uterus not expelling its contents; and the statements of others, whose experience in the fever was as ample, bore testimony to the same. In Glasgow, Paisley, Dundee, Aberdeen, and other of the large towns in Scotland, the same fact in those places equally obtained. The date of conception seemed to exert little, if any, influence in forming a prevention, abortions and premature deliveries, strictly so called, being equally common. No positive data being arrived at as to the true cause of this occurrence, any remarks now advanced can be but those of theory or conjecture. All causes which heighten the circulation tend to endanger the expulsion of the ovum, because a greater amount of blood being sent, and with an increase of propulsive power, to the uterine sinuses, extravasation is apt to take place between the uterus and placenta, which has the effect of disuniting the latter from the former, and thus the embryo and its involucre acting as a foreign body, induce contraction of the parietes, and their consequent expulsion. The increased action of the heart in fever, and especially in the distemper now treated of, in which the circulation was so unusually high, would, from what has been said, undoubtedly tend to produce the result described; yet, when we consider that a healthy ovum power-

fully adheres to the uterine walls, and is not easily displaced, — that the peculiarity mentioned was universal, not merely occasional, in its occurrence, — and that, from conclusions subsequently to be deduced, it rather seemed owing to some common cause than incidental circumstances, — it would be difficult, then, to ascribe the cause of expulsion solely to an increased action in the circulating system. Pursuing this question, it may be said, that the proximate causes of premature expulsion of the uterine contents are divisible into three classes: 1st, those which affect the uterus alone; 2d, when there is disease of the foetal appendages; 3d, the cause may be entirely restricted to the embryo or foetus itself.

1. A morbid condition in the great nervous centres will produce spasmodic action and contractile power in the uterine parietes, and such may be sufficient to cause the organ to expel its contents. Ergot of rye has its physiological action by affecting the cerebro-spinal system, and thus conveying its effects to the uterus, which is then excited to contractile efforts. It is not wholly improbable to suppose that the specific poison of a fever might produce some occult effect upon the brain and spinal marrow so as to be followed by results somewhat analogous to the agent mentioned, viz. to excite contractile action in the organ in question. In fever, the cerebro-spinal system forms the primary seat of disorder; and those morbid changes which take place in the circulation, and the phenomena consequent upon such alterations, are referable to a perverted condition of nervous power; hence it may readily be conceived that such an amount of abnormal action might be induced as to produce the result considered.

2. Diseases of the foetal appendages sometimes produce abortion or premature delivery; but, as these are only occasional occurrences, and generally the results of gradual organic change or peculiarity of structure, it becomes untenable to suppose that such constituted the cause of the peculiarity now mentioned.

3. There are good reasons for believing that the abortions and premature deliveries now spoken of were attributable to morbid action being produced in the embryotic or foetal

being, which destroyed its vitality, and thus rendered it subject to the operation of those laws in the animal economy necessary for the expulsion of a foreign body. It is previously said, that the blood was highly venoid, and that the bile morbidly circulated in the vital fluid; and below it is shewn that the poisonous product, urea, in many instances existed abundantly in the blood, which could not fail to exert a noxious influence upon the delicate and susceptible new being. This vitiated state of the blood, then, depending upon urea and cholesterine, together with being highly venoid, would form a common cause to the occurrence considered amply sufficient, and one that seems much more probable than the conjectures spoken of above.

When it is remembered that these abortions and premature deliveries invariably took place without even a single exception,—that in the advanced stages of pregnancy the child was always born dead,—and that no precautions or remedial measures seemed to have any power in averting this remarkable tendency of the uterus to expel its contents,—the only rational inference to be arrived at is, that a common cause existed in the system calculated to destroy the new being, and that this cause consisted in the presence of noxious agents in the maternal circulation.

There were several instances of pregnant women being in the hospitals at the time of the epidemic who were lying in genuine typhus. These, however, did not manifest any disposition to miscarry, like the gravid patients in the seven days' fever: indeed, I do not at this moment remember any case where a typhus patient miscarried; and, if such did occur, those cases were very rare, when compared with those labouring under the epidemic. In some instances of premature deliveries that came under my notice, there seemed to be a tonic action in the uterus, the orifice being sometimes so spasmodically contracted that it was with great difficulty the secundines could be removed. In certain cases I had to dilate the os uteri with the fingers for some time before the placenta could be withdrawn, and occasionally in instances where there had been considerable hæmorrhage. In one woman this was particularly

the case; the hæmorrhage had proceeded to a great amount before I arrived at the ward: a fœtus of about the sixth month was lying in a pool of blood; the secundines had not come away, and the os uteri was spasmodically closed; and it was not until after a considerable time that the orifice could be so far dilated as to admit of removing the placenta. Dr. Alison mentions two cases of premature deliveries, in both of which the child was born dead, and in each there was considerable hæmorrhage, although the uterus contracted well.

XII.—The kidneys were often the seat of diseased action; and, in some instances, death appeared to be induced by the absorption of urea, which was discovered in the serum infiltrated into the ventricles of the brain; and this product was also found in the blood, both during life and after death.

No branch of pathology has made greater advances than that respecting the kidneys; and, when we consider what an important office these organs perform in the animal economy,—how liable they are to become affected in febrile diseases, and what serious results proceed from an impairment of their proper functional power,—it is, then, not surprising that so much attention has been directed to the subject. In scarlatina, their affection has been thoroughly investigated, and, consequently, thrown much light upon the treatment of that disease; but renal complication in other forms of fever, especially in typhus, has not met with so much research, partly, perhaps, on account of morbid action in these organs being less suspected than more precise and careful observation would seem to warrant; hence it becomes important, if possible, to shew that the kidneys, in fever of the continued form, are liable to take on a diseased action, and occasionally constitute the proximate cause of the most alarming symptoms.

An obstruction in the sudoriparous organs, which necessarily gives rise to a great increase of action in the kidneys, and, if continued, disorder of function and change of structure in these organs, is the manner in which scarlatinal dropsy is induced, and when it is recollected that it is at the

extreme circulation where the grand phenomena of fever are located, in the various forms of continued fever as well as the exanthems; that during the febrile paroxysm the cutaneous tissue is in a great measure deprived of its natural excreting functions; that it is at the capillaries where the great processes of secretion, excretion, and assimilation are performed; that the evolution of effete matters, which are constantly produced by waste of the various tissues, is always carried on in an increased degree in fever, and that the kidneys are the organs by which such effete matters are conveyed from the system, it may readily be imagined how liable these organs will be to become affected, and what additional disturbance there would be created on a cessation of their proper functions by which the noxious effete matters would be retained, and the deleterious particles that ought to be removed, carried into the circulation. In typhus, the decay and diminution of structure generally proceeds to a great extent, which is dependent upon excessive oxygenization, which diminishes the tissues, and thus produces an abundance of nitrogenised effete matters, which matters are mainly carried off by these organs. The skin, as it is seen, losing much of its proper excretional functions, a greater quantity of blood is determined to the kidneys, which has the effect of stimulating them to an excess of action, and this excess of action is soon followed by a loss of functional power, and a congested state of the Malpighian and portal plexuses, superadded to which might be organic nervous disorder from primary irritation in the cerebro-spinal system; hence, the skin and kidneys in a great measure ceasing to perform their proper offices, the blood must then necessarily become iniquated from the retention of azotised matters, and which if retained to a considerable degree, act with all the evil effects of a narcotic poison. The skin during health evolves a considerable quantity of nitrogen, but an excess of action on the part of the kidneys, so long as such continues, will counterbalance the loss of functional power in the former, and thus preserve the equilibrium of function in the system; hence, if an increase of action in some organ or organs does not compensate for a

diminution of action in some other, general disturbance in the system must result. The great disorder in the nervous and organic nervous systems in fever often prevents the counteracting properties which nature would otherwise supply; and it is thus, in fever, that the kidneys, from a vitiated state of the cerebro-spinal system, and consequent loss of organic nervous energy, fail to counteract the evils engendered by impairment of function in the sudoriparous organs: at least, such is a potent cause in addition to those before mentioned. The practitioner should not be satisfied, and deem that because the quantity of urine voided is normal, that the kidneys rightly perform their office, as their excrement functions may be seriously disordered notwithstanding the usual amount of fluid being given off. In the commencement of Bright's disease, there is often no diminution in the quantity of urine, yet the solids are retained: this is now mentioned, because in some cases of the epidemic, ureal symptoms were manifest where there was not a corresponding decrease of the excretion. Nitrogen being the chief constituent of urea (according to Berzelius not less than 46 per cent), it is plausible to presume that where azotised effete matters are abundantly formed and retained in the circulation, owing to the phenomena of fever above noticed, this product will rapidly accumulate, and in proportion to its accumulation will be observed those effects upon the body acknowledged as producible by this salt. In the seven days' fever, the symptoms of urea morbidly circulating in the blood, were first noticed by Dr. Henderson, and soon afterwards by Dr. Cormack and others. An analysis of the blood and also of the serum infiltrated into the ventricles of the brain showed the crystals of this salt in great abundance. In some patients there were good reasons for believing that urea was formed in the system with unusual rapidity, so much so as to lead to the opinion that a peculiar tendency to its generation existed. Liebig says, that urea is formed according to the degree of action going on in the system,—a statement which, if universally applied, has been denied by Andral, Becquerel, and Golding Bird. If, however, the theory of Liebig be correct, and con-

sidering that the circulation was unusually high in the epidemic, we may thus in some manner be enabled to account for the production of this product in the seven days' fever. The symptoms of the accumulation of urea were mostly noticed after the crisis, during the non-febrile state. This might be dependent upon some short time being required for its accumulation, and it might not be generated in any important quantity until at or near the crisis: again, as has been observed*, the intense action of the skin at the time of the critical sweat might so affect the sudoriparous organs as to throw a greater amount of blood to the kidneys. There is little doubt that in some instances in which the patients were reported to have died from jaundice, that had a careful inquiry been instituted as to the action of the kidneys, it would have been shown that the proximate cause of death rather existed in the impaired state of these organs; and certainly these complications were not unfrequently co-existent. We are aware that the accumulation of urea is particularly prone to create inflammation of the serous membranes, especially in the arachnoid pleura and pericardium, yet although these affections were sometimes noticed, I am not prepared to say in what precise proportion they took place. In some of the worst cases, where ureal symptoms were present, it was quite obvious that the nervous system was labouring under some powerful depressant; the pupils became small and piercing, the extremities and surface generally of a lower temperature, the breathing quick, the heart's action enfeebled, and the intellectual faculties impaired: in fine, presenting all the appearance of narcotism. Powerful diaphoretics, in conjunction with stimulants, constituted the best remedial measures, and apparently confirmed the diagnosis. The instance of Janet Thompson may here be cited:—

CASE X.—Urea found in the blood.

Janet Thompson, æt. 24, single; resides in Leith. Admitted March 12th, 1844. A stout plethoric young woman. States that she was seized with rigors on the 7th, which were accompanied

with pain in the head, limbs, and over lumbar region. Previous to the shivering, had felt indisposed for two or three days, but only slightly; had been in no communication with fever patients, but in the house from whence she came several persons had been ill in fever, though this was some time previously.

March 13th.—Sweated a good deal last night, and is now perspiring freely. Does not think that she has sweated so much before during her illness. Pulse 80, soft, of tolerable volume. Pain in head, which was so severe yesterday, has entirely gone. Complains of some stiffness in the arm and shoulder. Bowels opened from medicine taken last night. Tongue moist, but furred. Has not passed any urine since her admission (yesterday). No distension over hypogastrium, nor dullness on percussion. Feels heavy and drowsy, every now and then falling to sleep and waking in a short time with a start, and feeling (as she expresses it) as if she were falling out of bed. Some dizziness and indistinctness of vision, with a feeling of heaviness over the eyes. No confusion in the mental powers, as she intelligibly answers every question made respecting her present condition, but cannot exactly state some of her previous symptoms.—℞ Nitrat. Potassæ, ʒij.; Liq. Ammon. Acet. ʒij.; Aquæ, ʒv. Sit. Mist, cap. ʒj. 4ta. q. q. horâ.

14th.—Pulse 80, very irregular in its beats. Began to pass water yesterday in an hour and a half after first dose of medicine. At 7 o'clock P.M., had made 6 or 8 ounces of high-coloured urine: the whole quantity for 24 hours is 34 ounces. Has sweated a good deal since yesterday. Feels much lighter, and the uneasiness in head is gone.—Medicament. Cont.

15th.—Had slight shivering this morning; skin hot and dry; pulse 88. Urine 24 ozs.; sp. gr. 1024.

There is here an omission for some days as to the state of her case, and the next report is dated

22d.—Pulse 120; skin hot; has an oppressed look; no stool to-day, but bowels were opened freely yesterday. No headache.—Mist. c. Nit. Potass. et Liq. Ammon. Acet. Rep.

24th.—Pulse 120, of fair strength; skin hot and dry; countenance has much of a sottish expression; pupils

* Edin. Med. and Surg. Journal, Jan. 1844.

pretty large and equal; no decided difference between the two sides of the face when features are at rest, but a very apparent obliquity of the mouth, and protrusion of the tongue to the right side when desired to put it out, the left angle of the mouth being drawn out at the same time. On speaking, left side of mouth alone moves. She is not insensible, but her intelligence is obscure. Moves her right arm freely enough, but cannot squeeze with it so thoroughly as the left. There is a bright red patch, and a series of others downwards on the epigastrium and abdomen; a pale-coloured spot occupies the centre of the largest, and a similar one exists at carpal extremity of the left thumb. There is a superficial slough on left heel, and an ecchymosed spot on right instep; tongue dry; urine passed in small quantity.—Abradat. Capalitinum.—R. Pulv. Nit. Potassæ ʒiiss.; Aquæ ʒx. Sit. Mist. Cap. ʒj. 2da. q. q. horâ.

25th.—Pulse 116, of good strength. The hemiplegia remains as before; tongue dry; had several stools. Urine abundant, but not kept. On the left foot the upper surface of little toe is occupied by a small bulla of blood; another between that toe and the next. The spots on the epigastrium are not so large; that on the right thumb is converted into a straw-coloured bulla. Intelligence, pupils, &c. as before.—Mist. Cont.

26th.—Pulse 104, of good strength; right cheek as before; right pupil smaller than left, but not contracted; tongue dry, but clean; pus in the bulla of the thumb; the largest bulla on left foot has emptied itself of blood, and the part is healthy below. The vibices are improving. Passes a sufficient quantity of urine.—Habeat. Pulv. Jalap Co. ʒj.; Mist. Cont.

27th.—Was observed in the morning in a state of stupor, being incapable of observing or replying. Was ordered by Dr. Craigie's clerk to be cupped about an hour ago. Pulse, at present, 150, very feeble. Is incapable of comprehending or replying to questions. The right pupil is considerably dilated; no effect is produced on the eyelid on thrusting the hand towards the eye; left pupil is smaller, not so contracted, and she winks on thrusting the finger towards the eye; even irritation of the conjunctiva produces but little effect

on the right side; no motion of the right arm is produced by irritating it, and it is quite in a state of resolution; pricking it, however, produces an expression of pain. Above the inner condyle of the right femur, and below the inner aspect of the left knee, parts which are said to have been lying in contact, there are spots of corresponding size, of two inches long by an inch and a quarter broad, consisting of red discolouration, containing a deep purple one nearly two-thirds of the size of the whole spot; around the redness there is a halo of a lemon colour; a scaly eruption of sudamina on the belly. A large bulla, containing apparently blood, has formed on the outside of the left foot. Urine passed in bed, quantity of which cannot be accurately ascertained.—Habeat. Sp. Communia. ʒiij. Cap. ʒj. in aquâ cald. omni secund. horâ.

28th.—Died last night at 11 o'clock.

REMARKS.—Infection seems to have given rise to her fever. On the sixth day of her illness there was some suppression of urine, which showed its effects in the cerebral symptoms, as noticed in the report. The next day (after the administration of pretty large diuretics), when the secretion of the kidneys was restored, the drowsiness and indistinctness of vision were removed. In the report of the 24th inst., and the seventeenth day from the commencement of her first attack, it is very evident that a serious affection of the brain existed, and there was partial suppression of urine; the diuretic medicine was again given, and although the kidneys were brought into action, yet the lesion which had evidently taken place in the head was in no degree removed. On the morning of the 27th, the preludes to dissolution were indisputably present: the urine was voided in decreased quantity, the sensifif nervous power in the affected side in a great manner lost, the intellect obscured, and other indications foretold the near approach of a fatal issue. The vibices and bullæ spoken of in this case were, perhaps, in a great degree dependent upon the circulation of urea, because this salt, by uniting with the elementary principles of water, is transformed into the carbonate of ammonia, which has the power of dissolving the fibrin of the

blood, and thus rendering hæmorrhagic effusions, transudations, &c., liable to occur. My friend, Dr. Michael Taylor, analysed the blood taken by cupping, and discovered crystals of urea in considerable abundance. The post-mortem examination shewed an anormal quantity of serous exudation in the ventricular cavities of the brain.

When it is considered how great is the ambiguity which mystifies the fundamental pathology of fever, it becomes exceedingly interesting when the proximate cause of death is so fully understood as in the case above. Yet, on the other hand, there were instances occurred in which a fatal termination ensued without any explicable cause being observable to elucidate the mode in which death had been produced. The next case is one in which the patient died without any cognizable lesion calculated to arrest the vital functions being discernible.

[To be continued.]

REMARKS ON THE PHYSIOLOGICAL ACTION OF INHALED ETHER.

By J. BLACK, M.D.

THE remarkable, and, we may now say, the popular administration of ether by inhalation, to produce insensibility to pain during surgical operations and some idiopathic affections of the body, has been submitted to a very general trial throughout the kingdom, both in public and private practice. The result, according to the numerous reports, has been, in the great majority of cases, satisfactory, and in many instances so successful that the process has been pronounced in several quarters as the discovery of all discoveries of the nineteenth century, and as one of the greatest blessings to suffering humanity. It is true that some cases have been reported unsuccessful, and a few others have been candidly represented as either fatal in the result, or, at least, that injurious effects have followed the process.

Amidst all these generally favourable, and the few exceptional reports, there has appeared no scientific

solution of the *modus operandi* of this novel application of ether on the animal and sentient organism, nor scarcely any attempt at a theory of the physiological process. Some affirm that the action is narcotic, others sedative, while the majority of those who have touched the question have assimilated the effects of inhaled ether with those of intoxication from alcoholic liquors or the Indian hemp.

After so much practical experience of the objective effects of this remarkable process, it may not be considered irrelevant or premature to examine some of the more precise or actual conditions of the question, to see whether we can approach to any fair physiological solution of it.

In the first place, we have the chemical substance, rectified sulphuric ether, long known and used in medical practice as a quickly diffusible stimulant and anti-spasmodic; it is a compound of carbon, oxygen, and hydrogen, in the proportions which constitute two atoms of olefiant gas and one of water, and it has a specific gravity of .750 at 40°, and of .715 at 60° Fahr., according to Dumas and Brande. What is its more peculiar property is the density of its vapour, being at the mean pressure and temperature as 2.58 to air as=1. The elastic force of its vapour is another property of most important consideration, being at 54° Fahr.=10.3 inches of mercury:—at 64°=15, and at 96°=30 inches, gradually increasing in tension, till at 212° it has a force of 240, according to Dalton. Fluid ether, moreover, boils under a pressure of 30 inches at 98° Fahr. Let us next examine the conditions of the subjective part of the proposition—the animal lung and body, to see if there is any physiological path for us safely to follow. The human body has a temperature varying in different individuals from 98° to 100°, and we may consider the lungs immediately after an expiration to be of the highest mean temperature of the body. The air-cells of the lungs are distensible and highly elastic, and they are surrounded on every side by capillary blood-vessels, having a free and very complete permeability for the afferent and efferent gases of healthy respiration. The temperature of the ether inhaled, has been at various degrees, from what is called temperate up to 75°.

On this difference of temperature will depend greatly the physical and other effects of the ether vapour on the tissue of the lungs, and its ultimate force on the sentient parts of the brain. According to Dr. Snow, air saturated with the vapour at 54°, contains about one third of its bulk of the vapour, and at 75° it holds more than one half.

The simple result, then, of inhaling this vapour, at whatever degree of saturation, will be to increase its elastic force or excentric pressure from 15 to 30 inches of mercury, if it is inhaled at a temperature of 64°; and if taken at 75°, at the full point of saturation, the practical increase of elastic force will be much less. There can be no condensation of this vapour in the lungs, for even if imbibed in a liquid state, the heat of the body at 98° would soon throw it into vapour—that temperature being its boiling point, which has a very curious coincidence with that of the body. From the above respective conditions during inhalation, excentric pressure must be with greater or less force made on the air-cells of the lungs. It may be hazardous to calculate the amount, but in every view it must be great.

The question now may be, upon what tissue is this increased elastic pressure expended, in order to produce the phenomena of *etherization*,—among which insensibility to physical pain and suffering is the most conspicuous? Is it chiefly or solely through the channel of the blood-vessels or nerves of the lungs, that this exaggerated pressure or irritation is brought to bear upon the *sensorium commune*, for it appears that the physiological climax is there exploded? To solve in some approximate manner this point, and to ascertain how far the law of *endosmosis* might be concerned in the first part of the process, I enclosed, at a common temperature, some rectified ether in a section of a recently killed lamb's small intestine, which, after being half filled with the ether, was firmly secured at both ends by ligature, and found to weigh in all 120 grains. This little sac of ether was, with the assistance of Mr. Hallsworth, Apothecary of the Union Hospital, immersed and kept down in a small vessel containing about six ounces of blood freshly drawn from a healthy adult, and which was

placed in another vessel of water kept at the temperature of 100° Fah. The sac of ether was carefully kept under the surface of the blood for ten minutes, when it was removed, washed clear of blood, and after being cooled down to the temperature before its immersion, it was found to have lost 15 grains, or about one-eighth of its former total weight. This loss was entirely of the ether, for the gut, membrane, and ligatures, were the same as before: the sac was still tight to liquid ether, and therefore the loss must have been by *exosmosis* through the gut. Besides, the blood at the end of the experiment smelled strongly of ether.

This rude and simple experiment may be taken for as much as it is worth, but I cannot help considering it as countenancing the view, independent of *a priori* probability or reasoning, that the vapour of ether, through the great elastic pressure which it exerts, permeates readily the walls of the pulmonary cells, becomes absorbed by the very contiguous blood currents, is thence conveyed directly to the heart, and so is quickly carried in a direct stream to the brain. All this may be done in less than ten seconds, if we may judge from the experiments of Mr. Blake on the transmission of poisons by the blood-vessels.

After the vapour reaches the blood-current, its elastic pressure is still maintained, if not increased, by the more steady maximum heat of the heart and other internal tissues. This adventitious force will, so far, only increase the reaction of, or irritate, the central organ, and distend more or less the elastic calibres of the efferent vessels; but when this distending vapour reaches the brain in the course of the circulation, its elastic force meets with a counter-pressure in the resisting case of the calvarium. Its tension will therefore become increased, and the consequence will be, the cerebral mass will suffer pressure even to paralysis of some of its functions. This adventitious pressure being, however, occasioned by elastic vapour, and not by fluids (however attenuated these may be, as alcohol itself) it may not, in general, lead to any serious or permanent lesion of any degree; in most cases the brain soon becomes relieved, and regains its sensibility, probably

from the dispersion of the readily permeating vapour throughout the whole tissues, if not from its decomposition.

It is unnecessary to advert to the actual phenomena that occur on inhalation of the ether, as corroborating the views of excentric pressure obtaining in the heart and blood vessels, along with more or less correspondent irritation. Where the process has been successful, there are witnessed frequency and softness of the pulse, swelling and general fullness of the vessels of the neck, head, and face, with labour in breathing, congestion of the eyes, and dilatation of the pupils. It does appear that in many cases, while there seemed to be perfect insensibility to pain, and a suspension of all voluntary motions, yet a consciousness of surrounding objects and operations in some degree remained, rendering this state very similar to that in which some are placed in the mesmeric trance.

This appears to be the most difficult part of the question to solve, and requires the more refined analysis of physiology to explain it.

Not to leave the solution of this very interesting point altogether unattempted, it may be inquired whether this partial dislocation of nervous function might not be occasioned by the newly-imbibed ether vapour on reaching the encephalon, expending at first, and for a time, its excentric pressure on the base of the brain, which is more in contact and connection with the arteries that convey the blood directly from the heart. The whole of the sensory ganglia are *here* more exclusively located, and will first suffer suspension of their functions; but if the blood has taken up an undue charge of the elastic vapour, or if inhalation be continued too long, or if the subject is one of feeble resistance, the whole parts and functions of the brain will suffer, and enervation, apoplexy, or death, may follow. Professor Christison mentions two cases wherein inhalation of sulphuric ether produced, in one, intermitting lethargy for thirty-six hours, with depression of spirits and lowness of pulse; and in the other, apoplexy for some hours, and the person would have perished if he had not been discovered. Brande only says, as to its physiological effects, that it produces a remarkable species of intoxication

when its vapour is respired mixed with air.

As the whole subject, including what possible narcotic or mephitic element may be concerned in the matter, is full of interest, it is very desirable to withdraw it as much as possible out of the domain of speculation into that of science; and, if the few observations which have herewith been made may tend to excite some more exact and experimental researches on this engrossing subject, the writer will feel much gratified to see the whole physiology of the matter placed upon a more satisfactory and scientific basis than it has as yet attained.

Manchester, March 1, 1847.

ATTEMPTED BRIBERY OF M. MAGENDIE.

M. MAGENDIE had been appointed as a special witness to give evidence on the question whether certain leeches which had been sold by MM. Vaucher and Laurens were "gorged*" at the time of sale. Madame Laurens, the wife of one of the accused, was charged with attempting to bribe M. Magendie. This gentleman deposed that the accused called on him on the 24th January. After having begged him to devote the greatest care to the delicate investigation entrusted to him, the lady withdrew, leaving upon his table a sealed packet, which she said contained memoranda for his guidance in the case! After her departure, M. Magendie opened the packet, and found that it contained three bank notes of 1000 francs. There was also enclosed a letter, not signed, from which the following extract was read:—"Let me beg of you to procure the dismissal of the complaint against MM. Laurens and Vaucher. This will be simple justice. Your time is valuable, and I therefore wish to remunerate you. No one shall know of my visit to you."

Madame Laurens said, in her defence, that she had made a mistake in writing the letter; she had not intended to leave it behind her; and, if it contained bank notes of 1000 francs, they must have got into the envelope without her knowledge. Her leaving the packet on the table must have been accidental. The tribunal, however, rejected this defence, condemned Madame Laurens to one month's imprisonment, and a fine of 300 francs: and they ordered the notes for 3000 francs, intended as the bribe, to be paid into the account for the benefit of the Parisian Infirmeries!—*L'Union Médicale*.

* In France leeches are sold by weight. It has been much the practice with leech-venders lately to let the leeches fill themselves with blood from calves, horses, and other animals, and sell them in this "gorged" state.

MEDICAL GAZETTE.

FRIDAY, MARCH 26, 1847.

IN our last number, we gave an abstract of the three first articles relating to the practice of medicine in the *Projet de Loi*, recently presented by the French, minister to the Chamber of Peers. One great principle of the French Medical Reform Bill is to discourage the formation of the low grade of practitioners hitherto known as *officiers de santé*; they are not altogether excluded from the degree of doctor of medicine, but such conditions are imposed as to render it certain that none but educated and practical men will be hereafter admitted. Before presenting themselves as candidates for the higher degree in medicine they must have taken degrees in letters and sciences; each year of practice will be considered as equivalent to six months of study, and they must pass the same examinations as the regular University students. Some of our French contemporaries have, we perceive, objected to this article as severely pressing upon a numerous and industrious class of men; and they have complained that foreign graduates are admitted upon easier terms than native practitioners. It has been suggested, that on proof of five years' admission to practice, the *Officier de santé* should be allowed to take the degree of doctor of medicine, after undergoing two practical examinations in medicine and surgery. A strong argument in favour of this view is, that injustice is always inflicted by retrospective legislation:—at the same time, if by the "reform" of a profession we are to understand its improvement, and the elevation of its numbers to a higher rank in the social scale, we do not see how the proposed ex-

ception can be entertained without damaging the class of doctors of medicine. The new French law insists that none shall be admitted into this class who have not received some preliminary education; and the purification of the medical profession, both in France and England, depends in our judgment upon a rigorous adherence to this rule.

In the fourth article, an attempt is made to deal with those special branches of the profession which have hitherto, in both countries, constituted the principal occupation of quacks.

ART. 4th. *Regulation of special branches of medical practice.* Within a year after the promulgation of the present law, it shall be determined by a royal ordinance under what circumstances the practice of special branches of the medical profession shall be permitted to be exercised, whether temporarily or permanently. In the meantime, the practice of these branches of medicine shall be placed under the penal restrictions enumerated in Art. 1. A similar order applies to the education and practice of midwives (*sages femmes*).

The French minister has here attempted what no English legislator has yet ventured to propose,—the introduction of restrictions on the practice of dentists, oculists, aurists, orthopedists, chiropodists, syphilitists, bone-setters, skin doctors, midwives, and that non-descript class of practitioners, who, without medical education or diploma, seize upon certain diseases of the human body, in the cure of which they profess to be profoundly skilled. The columns of our daily journals, which teem with their advertisements, shew to what a degree these quacks have succeeded in robbing the public, while the records of coroners' inquests frequently bring to light the fatal results of their practice.

That this system requires reformation all will admit; but no English minister has hitherto had the courage to attack it, or to show that its continuance is even more destructive to the public health than it is injurious to the regularly educated members of a hard-worked and ill-paid profession.

The question whether a *dentist* should be regarded as a practitioner of medicine, has been lately raised before the French Courts, and decided, on appeal to the Court of Cassation, in the negative. In neither country, whether we regard law or usage, has the dentist been treated as a medical practitioner; although the regularly-educated class of English dentists have long desired a legal incorporation, in order to put an end to the quackery with which the practice of their art abounds. It is well known that there is no method of obtaining money under false pretences so secure, so profitable, and so little attended with legal responsibility, as by the assumption of the title of "*surgeon dentist*;" yet no disposition has been hitherto shown by our legislature to take this branch of practice out of the hands of ignorant pretenders, and restrict it to a class of educated and competent men.

Although the French minister has left the degree of interference somewhat uncertain, he undoubtedly intends to check the progress of quackery in these special branches of medicine. The difficulty which he has had to encounter has been that of not demanding too high a standard of education, and yet of requiring a sufficient degree of medical knowledge for the protection of the public. In adopting a *mezzo termine*, therefore, he proposes that they who take up the practice of these collateral branches, shall be required to pass the examination for the degree of Bachelor of Medicine, the qualification for which shall be two years' study in

a Faculty or Preparatory school. One of our French contemporaries objects, with some reason, to the legal recognition of dentists, oculists, and aurists, as *special practitioners*. A sound knowledge of medicine and surgery is undoubtedly required of all who pretend to treat diseases of the teeth, eyes, and ears; and we do not see why, because a man selects *one* important branch, he is to be exempted from a course of study which those who take a wider range of medical or surgical practice are compelled to undergo. If, as we believe, a proper knowledge of ophthalmic or aural surgery implies a perfect acquaintance with anatomy, physiology, and pathology, there is no reason why the rules of medical education should be relaxed in favour of oculists or aurists. Some difference of opinion may perhaps exist with regard to the class of dentists; yet we think it would undoubtedly tend to the respectability of the profession, and to the advantage of the public, if all who proposed to practise the dental art were compelled to go through a regular course of study, and to take out a medical or surgical diploma.

The legal recognition of *midwives* will also be dealt with under this article. In this respect the French differs from the English practice. In France, while the necessity of allowing females to practise midwifery has been admitted, an attempt has been made to protect the public by requiring them to take out a license; and in order to obtain this, they must give some proof that they have really studied midwifery. In England, while the mischievous practice of ignorant midwives is notorious, they have been allowed to go on unchecked, and to acquire experience among the poor only at a very heavy sacrifice of human life. Here, again, English and French legislation are strongly contrasted; and the result

is decidedly in favour of the latter. Our French neighbours have done their best to put proper restrictions upon what has become an inevitable necessity; for we believe that a law which restricted obstetric practice to medical practitioners only, would be inoperative.*

The Parisian Medical Congress recommended the adoption of the following rules with respect to the licensing of midwives. 1. No female pupil shall be admitted as such who has not undergone some preliminary instruction, and who cannot produce a certificate of good moral conduct. 2. The period of instruction must be at least two years, and the course of study essentially practical. 3. No female pupil shall be admitted in a faculty or medical school as a candidate for the diploma, who has not passed two years at a Maternity Hospital under the superintendence of the medical officers of the institution. The candidate must undergo two examinations, the one on the theory, the other on the practice of midwifery. 4. Midwives shall not be permitted to perform any operation except venesection or vaccination. 5. They shall be under the jurisdiction of the Medical Councils. It is not unlikely that the French minister will make these rules the basis of legislation in relation to the practice of midwifery by females.

ART. 5.—False pretences of qualification. — Whosoever shall practise medicine or any of its branches under any title whatsoever without having fulfilled the obligations imposed by the present law, or whosoever shall assume any title indicating that he is qualified to undertake any branch of medical

practice, or a title not recognised by the present law or any Royal ordinance, shall be deemed guilty of the illegal practice of medicine, and shall be summarily punished according to the provisions of Art. 1.

This article corresponds to the 33d clause of our last Medical Reform bill; but it is of a much more efficient and comprehensive kind. In the first place, the French had not to deal with that difficulty which has given rise to so much ill-feeling in this country, *i. e.* of a "registered person" or licensed practitioner calling himself by a name or title of a class to which he might not belong; as an apothecary, calling himself a surgeon, or a surgeon a physician, &c.—an evil dependent on the preservation of three grades of practitioners all closely treading upon the heels of each other: but they had to dispose at once of the legion of quacks, who assumed at least the *functions*, if not the title, of medical practitioners; a question which more nearly concerns the welfare of the public and the good of the profession. We do not mean to say that this article of the French bill will repress quackery, — no human legislation can ever accomplish this; but it will be "a heavy blow and a great discouragement" to it; and it will at once draw a broad line of distinction between the regularly educated man and the mercenary pretender. In the preventive clause of the English Bill, the restriction was confined to the assumption of a *title implying registration* under the act, or recognition *by law* as a medical practitioner, limitations on which an ordinary *nisi prius* barrister would have easily obtained the acquittal of the most arrant quack. Then, again, the offence was confined to the assumption of a few specified false titles, leaving open to selection others which would equally enable the charlatan to impose upon the public:

* The necessity for the education of English midwives has been strongly enforced by the Registrar-General in his last Quarterly Report (see page 308). This report shows that deaths from childbirth are decidedly on the increase. In the last quarter of 1846, the deaths from this cause were 168 to only 95 in the corresponding quarter of 1845!

—the offence was a misdemeanour:—required to be tried before a superior Court; and, lastly, the amount of punishment, either by *fine* or imprisonment, was left entirely to the option of the Court.* Contrast with these provisions those which it is proposed to incorporate in the French law: it is here laid down, that the assumption of *any* title implying qualification for the practice of medicine or any of its special branches shall constitute the offence: the punishment is of a *summary* kind: it is not left to the option of a court which may be sometimes favourably disposed to the toleration of quackery, but is fixed at not less than six months nor more than two years' imprisonment for the first offence, and from two to five years' imprisonment for a second offence! The English law, acting upon the old Saxon principle of compounding for offences in *money*, gives to a court the power of imposing a *fine*, and thus enables one who has grown wealthy by his robbery of the public, to have a fair chance of purchasing his liberation; while it absolutely consigns the poor and less guilty offender to a prison! The French minister has, in our opinion, taken a wiser view of the true method of repressing quackery by law. There is no recognition of the "money" principle in reference to an offence which is equally injurious to the public whatever may be the worldly means of the offender. It is properly considered that an ignorant impostor who robs the public under false pretences,

* We have not here noticed the 31st clause, which prohibited an unqualified person from practising as an apothecary by an expensive legal process, for which no public prosecutor was appointed,—and under a penalty which in most cases it has been found impossible to levy. Sir James Graham, however, left the definition of an "apothecary" in that glorious state of uncertainty which has already ensured impunity to so many offenders. M. De Salvandy, the French minister, proposes to punish not merely for *assumption of title*, but for the *exercise of the functions of a medical practitioner*, whether they be those of an apothecary, surgeon, or physician!

shall not be allowed to escape punishment, merely because he has been more successful in his vocation than some of his brethren!

The remaining articles of the *Projet de Loi*, so far as regards the practice of physic and surgery, relate to the dispensing of medicines, and to those offences which will legally disqualify individuals who have been once admitted as medical practitioners. The consideration of these articles we must reserve for a future occasion.

On the 7th of May, we shall commence the publication of a Course of Lectures on the Diseases of Infancy and Childhood, by Dr. Charles West, Lecturer on Midwifery, &c. at the Middlesex Hospital. We shall also, at the same time, commence the publication of a Course of Lectures on Surgery, by Bransby B. Cooper, Esq. F.R.S., Lecturer on Surgery at Guy's Hospital. One lecture of each of these courses will be published weekly until they are completed.

The last of the Gulstonian Lectures for 1847, by Dr. Baly, will be found in this day's number. Six lectures are required to complete the Course of Dental Physiology and Surgery by Mr. Tomes; and these will be published as early as our arrangements will permit. The first part of the course on Medical Jurisprudence, by Mr. Alfred Taylor, will be completed in another lecture; this is already in type, and will appear in an early number.

It is gratifying to us to find that our exertions to render this a journal of practical information on all branches of medicine, are thus so liberally aided by our friends. We entertain no doubt that our readers will fully appreciate the value of the courses of lectures which are about to be contributed to our pages by Dr. West and Mr. Bransby Cooper.

Literature.

Annual Report of the Royal Edinburgh Asylum, for the year 1845. 8vo. pp. 29. Morningside: Printed at the Asylum Press.

Report of the Parliamentary Committee of the Royal National Repeal Association on the Returns from the District Lunatic Asylum of Ireland Called for by Sir R. FERGUSON, M.P. and printed on the 18th July, 1845, by order of the House of Commons; and upon the Act passed during the Session of 1845. Relative to Lunatic Asylums in Ireland. Read at Meeting of the Association Feb. 2d, 1846. 8vo. pp. 14.

Third Annual Report of the Managers of the State Lunatic Asylum. Made to the Legislature, January 23d, 1846. Crown 8vo. pp. 61. Albany, U.S. 1846.

Sixteenth Annual Report of the Belfast District Asylum for the Insane Poor, for the year ending March 1846. 8vo. pp. 32.

Report of the Directors of the Montrose Lunatic Asylum Infirmary and Dispensary, (Instituted 1781), for the year ending 1st June, 1846. 8vo. pp. 22.

Medical Report to the Managers of the Lunatic Asylum of Aberdeen, for the year ending 30th April, 1846. 8vo. pp. 24.

Report of the Medical Officers of the Lunatic Asylum for the County of Lancaster. 1846. 8vo. pp. 16.

Fiftieth Report of the Friends' Retreat near York. 1846. 12mo. pp. 64.

Proceedings of the Lincoln Lunatic Asylum; and Communications with Her Majesty's Commissioners in Lunacy: with an Appendix, containing Extracts from the various Reports, illustrating the Medical and General Economy of the Establishment. 8vo. pp. 1846. London: Longman and Co. 1847.

THE above Reports contain a large amount of interesting and important statistical information relative to the history of insanity, and they all afford strong additional testimony of the successful results of the employment

of the benign system of moral control which has now, we trust, almost entirely superseded the plan of physical restraint which formerly rendered the condition of the insane at once wretched and hopeless. The following sketch will give an idea of the manner in which the inmates of the above asylums are now employed; it affords a delightful contrast to the utter vacancy, wholly unbroken except by painful impressions, in which the existence of the confined lunatic was formerly passed. In the Edinburgh asylum the less instructed of the patients are daily taught in a school attached to the establishment, the teaching itself being, in great measure, performed by patients who, according to their abilities, have taken a principal or secondary part in it. A schoolmaster has thus found himself at home by being afforded an occupation congenial to his habits and tastes. A printing press has been introduced into the institution, and the report before us is an excellent evidence of the patients' typographical skill. The inmates are occasionally diverted with social musical meetings, and with a theatre and bazaar. The state asylum is also provided with a school and workshops, in which the patients are taught and occupied in various handicraft employments; a library is also provided, and several of the inmates have recently acquired the art of taking daguerreotype portraits. The inmates of the Belfast asylum, who are chiefly of the poorer class, are industriously employed, the males in outdoor avocations, the females in domestic work; these avocations being occasionally relieved by music and dancing. At Aberdeen, the patients are encouraged to perform various kinds of agricultural and mechanical work, and many of them are recreated with music, drawing, reading, and composition. Here also an occupation of very general interest among the patients has been the formation from time to time of casts in stucco, taken from the heads of some one of their own number, and of which a small but well-executed collection has already been made. At Montrose, the poorer inmates are employed in outdoor and indoor work, while the other classes find interest in reading, cards, billiards, a bowling-green, social reunions, and

occasional excursions into the neighbourhood. At Lancaster, there is a day-school for the idiotic, which is conducted on somewhat the same principle as that adopted in infant-schools, and the medical officers state that it is most gratifying to observe the favourable impression produced even on the idiotic mind by well-directed and persevering efforts, where, to the casual observer, all prospect of educational benefit would appear to be utterly hopeless; occupation of a mechanical, agricultural, or domestic kind is also found for all the patients who are able to work; at the Retreat, the occupations and amusements of the lunatics are chiefly followed in the open air; the inmates of the Lincoln Asylum are provided with a library, and are permitted to go the rounds of public institutions of the place; here

"A delightful improvement was made as far back as the year 1839, by the introduction of two female children, who run freely about among the female patients, as playmates; they keep the galleries alive, and amuse the patients, some of whom show much regard for them, and have endeavoured to instruct them. This had led to affecting incidents; it lately enabled the officers to introduce a child belonging to a respectable female patient in deep melancholia, and who had often raved for her children; the introduction did not in this case so far violate the

principle of a change of scene as to prove in any way injurious, but, on the contrary, drew out the best affections of the patient, soothed her, and has terminated in her recovery; the other patients seemed also much gratified by the presence of the child. A similar instance has occurred with a respectable male patient."

The inmates of this asylum are also occasionally allowed to associate with the same, at balls, &c

"They are delighted to meet the hounds in the hunting field, and occasionally take part in the chase; beagles have been kept and hunted within the walls, and were given up only on account of their baying in the night time."

It has now been ascertained that, notwithstanding the improvements which have been latterly introduced in the moral and physical treatment of the insane, the average mortality among lunatics is generally far greater than in the adult portion of the population at large, and it becomes a question of great importance to the profession to inquire into the causes upon which this excess of mortality depends, and the means which should be employed for its diminution. The following table contains an abstract of the admissions, recoveries, deaths, &c., which occurred at the several asylums during a period of twelve months.

	Edinburgh.	State Asylum	Belfast.	Monrovia.	Aberdeen.	Lancaster.	Retreat.	Lincoln.
Admitted	253	293	104	34	93	169	29	55
Discharged recovered .	81	135	61	12	41	63	14	18
Discharged improved .	82	78	14	1	14	—	2	12
Discharged unimproved .	—	34	—	—	7	40	—	13
Died	38	21	24	9	13	33	2	17
Total number or average number of inmates during the year	405	553	355	139	283	668	126	172

The following are the principal particulars afforded by the reports with regard to the causes of death in the several asylums.

At the Edinburgh Asylum, out of 23 patients in whom the chest was examined, deposits of tubercle were found in the lungs of 14; phthisis was not the cause of death in all these cases, but Dr. Mackinnon considers that the

presence of tubercle in the lung throws light on that abdominal affection which more immediately caused the fatal termination in some, and that hence the mortality was caused by the tubercular diathesis. Hence Dr. M. argues that the insane and tubercular constitutions are nearly allied (an opinion which we are not at present inclined to admit), and draws the conclusion, that the

treatment, especially as regards hygiene, should be regulated on similar principles. 9 deaths appear to have been due mainly to cerebral mischief, and 9 to exhaustion. 3 were the subjects of malignant disease, 2 died of disease of the heart, and 2 of bronchitis; 1 patient committed suicide, and 1 died of diarrhœa. In the State Asylum 4 are reported to have died of consumption, 5 of marasmus, 2 of apoplexy, 2 of inflammation of the brain soon after admission, 2 of paralysis, 1 by suicide, 1 from exhaustion after high excitement, 1 from bronchitis, 1 from congestion of the brain, and 2 from diarrhœa. At Belfast 9 of the deaths occurred in persons who were sinking at the time of their admission; in 5 death was ascribed to maniacal exhaustion; in 3 it was due to general paralysis; in 2 to phthisis, in 2 to epilepsy, to apoplexy in 1, and to jaundice in 1. In the Montrose Asylum 4 deaths were owing to exhaustion, 2 were from apoplexy, 2 from phthisis, and 1 from acute inflammation of the larynx induced by violence inflicted by the patient on himself in a moment of passion. At Aberdeen 4 deaths were ascribed to exhaustion, 2 to cerebral affection, 1 to phthisis, 2 to bronchitis, 1 patient committed suicide, 1 died from erysipelas, 1 from general dropsy, and 1 from diarrhœa. The deaths at Lancaster were due to the following causes: Chronic disease of the brain and its membranes, 9; ditto attended with general paralysis, 9; apoplexy, 3; exhaustion after continued excitement, 3; pulmonary consumption, 17; chronic bronchitis, 2; inflammation of the lungs, 2; valvular disease of the heart, 2; gastro-enterite, 1; general debility, 3; ditto attended with epilepsy, 1; abscess in thigh, 1. Of the two patients who died at the Retreat, one died of chronic disease of the heart and lungs, the other expired suddenly from interruption to respiration produced by the pressure on the windpipe of a large bronchocœle. In a table of the causes of death at the Lincoln Asylum between the years 1820 and 1845, we observe that between 1840 and 1842, eleven deaths occurred from pulmonary consumption; while from 1843 to 1845 only four deaths from that cause were registered, although during those six years the total number of patients under care had been gradually increasing

from 142 to 172. In 1844, 2 deaths occurred from diarrhœa, and in 1845, 3.

The decrease in the number of deaths from phthisis in the Lincoln Asylum is to be regarded as a favourable evidence of the system of management now adopted in that Institution. The far larger proportion of deaths from this cause in one or two of the other establishments can scarcely be regarded as an accidental circumstance; it has certainly not been proved that the subjects of insanity are necessarily prone to phthisis, and we would strongly call the attention of all medical attendants of asylums to the necessity of freeing their patients as much as possible from all the known removable causes of struma, wherever any of such causes may be suspected to exist either in the situation of the buildings, and the mode in which they are cleansed, ventilated, and lighted, or in the diet or occupations of the patients. In a notice of the Report of the Lancaster Lunatic Asylum for 1845, we took occasion to observe that the mortality from phthisis was considerably greater among the female patients than in the males. In the present report, the deaths from this cause were 11 in the former to 6 in the latter. To what causes this disproportionate mortality from phthisis may have been due, we are of course unable to say, but it appears to suggest the belief that those lunatics who are chiefly employed in active avocations in the open air are more exempt from the disease than those who are confined to sedentary in-door employments. We think it probable that the amount of needlework performed by the female inmates of the Lancaster Asylum is too great; at all events, an alteration in the plan at present adopted could scarcely be thought undesirable.

There do not appear to have occurred any deaths from fever in either of these institutions during the year preceding the publication of the reports. The number of deaths from diarrhœa have not been very numerous in either of the asylums; still, it is probable that this disease, as well as bronchitis, is usually to be reckoned among the preventible causes of death in the insane.

Several of these reports contain interesting statistical facts with reference to the influence of *hereditary predisposition* in the production of insanity.

Out of 253 patients admitted to the Royal Edinburgh Asylum, hereditary predisposition was believed to exist in 61. Out of 844 patients who have been in the States Asylum, 224 were known to have insane relatives. It was believed that many of the others were thus predisposed, but no information could be gained respecting their relatives. 104 were known to have insane parents. Dr. Brigham, who has drawn up this excellent report, has added the following remarks:—

"It would appear from our inquiries, and they have been very carefully conducted, that insanity is a little more likely to be transmitted by the mother than by the father, and that mothers are considerably more likely to transmit it to daughters than to sons, while the fathers most frequently transmit it to the sons. Thus, out of the 58 men, 35 had insane fathers, and 23 insane mothers; while, of 46 women, 16 had insane fathers, and 30 insane mothers. We have known, however, of repeated instances in which insanity was transmitted by one parent to both sons and daughters; but a predisposition to insanity is also transmitted from parents who, though not actually insane, are remarkable for violent and ungovernable temper, eccentricity, wanderings of the imagination, or weakness of mind. Mothers in whom the nervous system predominates, who are prone to hysteria, and who have suffered much from affections of the nervous system, are very apt to transmit a tendency to similar diseases to their offspring, and sometimes to insanity, especially if they have, during pregnancy, experienced violent emotions, such as terror and extreme anxiety of mind. Children begotten in old age, or when the difference in the ages of the parents is very great, and also of those who have been very intemperate, are believed to be predisposed to mental disorders. Sometimes great originality of mind in the parent, intense study, and entire devotedness to a particular pursuit, appear to predispose the offspring to insanity or idiocy." (pp. 53-4).

Out of 107 admissions at the Belfast Asylum only 9 individuals were proved to be the subjects of hereditary predisposition. Out of 93 patients admitted to the Aberdeen Asylum there was hereditary predisposition in 47 cases. On the father's side, in 13; on the mother's, in 12; on both sides, in 2; and in 20 it is stated to have been uncertain (!) on which side the predisposition existed. This last specimen of statistical information is scarcely intelligible.

Dr. Brigham's Report of the State Asylum contains several very sensible observations; and, among others, some judicious observations on the measures which should be pursued for arresting insanity in its incipient state. He refers to the alarming prevalence of suicide in the State of New York, seventy-four persons (forty-four men and thirty women) having committed suicide in that State during the last twelve months. Most of these persons are reported to have been insane. Dr. Brigham presumes this statement is correct, and believes that many of the individuals might have been saved had their friends adopted early and judicious precautions. He continues:—

"Of this we feel confident from the fact that of the 844 patients admitted to this asylum, 111, viz. 49 men and 62 women, were disposed to suicide when admitted, and several of them had repeatedly attempted it, and we have no doubt many of them would have accomplished their purpose but for the timely precaution of their friends in sending them to an asylum. Here they have not only been prevented from committing suicide, but many of them have recovered. The suicidal form of insanity is, we think, generally curable by early and judicious treatment. * * *

"The recurrence of insanity might often be prevented by proper care. This fact we consider it important for the community to know, and also that *re-attacks* are very common. Thus, of the 844 patients who have been at this asylum, 145, or more than one-sixth, had been previously insane. We are often surprised at the apparent thoughtlessness of the friends of the insane, and their neglect of the precautions necessary to prevent a relapse. Thus, not unfrequently those who have here recovered are returned to their homes in a manner likely to injure them—exposed to cold and to excessive fatigue by riding too far in one day, and by being deprived of their rest by journeying in the night. Some are permitted to recur to those habits and practices that are known to cause or perpetuate the disease from which they have just recovered, such as the use of stimulating drinks, the excessive use of snuff, tobacco, or strong tea. Others are permitted to attend and to take part in exciting political and religious meetings, and to be out late at night. As a general rule, we find no advice so useful to those who have recovered from an attack of insanity, as to carefully avoid everything likely to cause loss of sleep, to pass their evenings tranquilly at home, and to retire early to rest."

We trust that the whole of these reports are extensively circulated by the authorities of the institutions in which their materials are collected: a free interchange of these documents among the officers of different asylums must necessarily lead to the adoption of many valuable suggestions, not only in the formation of future reports, but also in the domestic, sanitary, and medical arrangements of the several establishments. For greater convenience of reference, it would be desirable that all lunatic asylum reports should be printed in a uniform manner—of the demy octavo size: this would render the arrangement of these records in volumes far more convenient than it at present is.

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Monday, March 15, 1847.

Dr. WILLIAMS IN THE CHAIR.

Mr. BUSK exhibited a specimen of
Abscess of the Kidney.

The organ presented a mere collection of pouches filled with pus, the glandular structure having apparently undergone entire disorganisation. Each pouch contained a secondary cyst, with similar purulent fluid. The pelvis was not much dilated.

The specimen was taken from a female, aged sixteen, who died hectic, and was affected, six months before death, with considerable purulent deposit in the urine. The cause of the disease was not evident. That it did not arise from impediment to the flow of urine was proved by the pervious condition of the ureter, which, however, was destitute of its lining membrane.

Mr. BUSK also exhibited a drawing illustrative of a case of

External Strangulation of the Sigmoid Flexure of the Colon from the Twisting of the Gut on itself.

The patient, a man, aged twenty-eight, was admitted into the Dreadnought Hospital in a moribund state, having suffered from irremediable constipation for five days. He died five hours after admission; and on examination, the sigmoid flexure was remarked, occupying nearly the entire perium of the front of the abdominal cavity, and in a gangrenous condition. It was immensely

distended, obliteration of the muscular bands and rupture of the serous coat having resulted. It appeared, from a careful examination, that this portion of the gut had been originally highly developed, and that it had become strangulated from falling over towards the right side on itself, thus causing the formation of a twisting, and consequent strangulation. There was but slight peritoneal effusion, and the descending colon and rectum appeared natural. The patient had on previous occasions been subject to constipation.

Dr. LLOYD directed attention to a similar case in the person of a man who had been subject several years to constipation, which was relieved by a bougie passed up about thirty-six inches. In one of these attacks he died; and on examination a similar state of things was observed. An ulcer, however, had formed at the point of the twist. The case is detailed at length in the Guy's Hospital Reports.

Mr. PARSCOTT HEWITT related a case in which the post-mortem appearances were very similar. A man, aged sixty-five, was admitted into St. George's Hospital, in 1844, with a large circumscribed tumor, occupying the greater part of the abdominal cavity, and apparently extending into the pelvis. The patient, who had been hemiplegic for twenty-two years, could give no distinct history of his case; but on examining the abdomen, fluctuation was distinguished over the whole of the tumor, the surface of which appeared to be smooth. No solid matter could be detected in any part of it. Percussion gave a clear sound in the upper part of the abdomen only, and here but to a small extent. At time of his admission, there was a tendency to diarrhoea, and a day or two afterwards low peritonitis made its appearance, accompanied by a great pain in the abdomen and constant sickness. He died on the third day after these symptoms had begun, having only been in the hospital five days. On laying open the abdomen, the greater part of it was found occupied by a large tumor, of a dark colour, which had displaced the various viscera, and even encroached upon the chest. This tumor was formed by the sigmoid flexure of the colon, enormously distended. The bowel was connected to the iliac fossa by a pedicle, formed by a long meso-colon, which had become twisted upon itself, and thus given rise to partial obstruction of the gut, the openings leading to the descending colon and rectum being very small and tortuous. The cavity of this distended intestine was filled with fluid feces, and one or two hard masses; its mucous membrane was of a dark livid colour, but not ulcerated. The other parts of this intestinal canal were quite healthy in structure; but extensive traces of old peritonitis were observed in various parts.

Mr. DALRYMPLE showed a series of preparations (accompanied with drawings) of the various forms of

Malignant Disease of the Eye,

in order to prove the futility of operative interference in any stage of such affections. The result of extended experience has convinced him, that where the globe had been extirpated at the earliest possible stage of the disease, the death of the patient was brought about, sooner or later, by the formation of secondary tumors in the brain, in the same manner as when the globe had been extirpated at a more remote period of the disease. The particulars of several of the specimens were detailed at length, proving the above assertion; and the following case, Mr. Dalrymple observed, might be considered a type of the average course of the disease:—

A child, two or three years old, came under his care in the beginning of the year, some time back. At the back part of the eye were observed three small deposits of fibrin, leaving a triangular space of the choroid between them. These gradually extended forward to the ciliary boundary of the choroid, and became vascular, pushing the iris forward into the anterior chamber. They became gradually more and more vascular, the triangular space between them gradually diminishing. In proportion to their increase, the iris became more prominent, and by degrees, vascular. In May, the globe was hard sclerotic bluish, iris more convex.—August: Globe enlarged, iris narrower, lens in a state of incipient opacity, lids of a purplish hue, pain in the globe.—September: Eye enlarged, pupil large, lids livid and swollen, palpebræ cannot be closed: deep seated scleritis, dark blue zone near attachment of cornea, fungoid mass in the anterior chamber, with effusion of lymph; headache.—December: Globe gave way, conjunctiva crimson and velvety, slight bleeding, headache, and pain over brow.—January: Tumor equalled size of apple, covered with dark crust: drowsiness, emaciation.—March: Tumor much enlarged.—On the 25th: Stupor, convulsions, death.

On the post-mortem examination, small tumors were observed, connected with the bone under the scalp. Dura mater opposite the tumors soft and thick, as also arachnoid. Ventricles contained one ounce of clear fluid; a large encephaloid tumor at base of brain, limited by the olfactory nerves; the pons Varolii, and the sides of the middle lobes, involving the right optic nerve; the third pair, however, being but little intererred with. Sclerotic crushed and emptied of its contents, the cavity of the eye being filled by a reddish medullary growth, traced from where the optic nerve entered. Muscles and lachrymal gland unaffected.

Another reason contra-indicating the removal of the globe, remarked Mr. Dalrymple, is the occasional existence of a disease of the eye, in no way distinguishable, as regards physical appearance, from the first stage of malignant disease. The disease consists in the effusion of an albuminous fluid between the retina and choroid, causing protrusion of the lens, and giving rise to the cat's eye appearance. In the two specimens which were exhibited as illustrative of this affection—in the one, there was mere serous effusion; in the other, serous effusion, accompanied with the deposit of flocculent tripe-like looking lymph, on the external surface of the retina.

Dr. PARKES exhibited the

Liver and Intestines of a Patient who had been affected with Dysentery,

and who had died in the University College Hospital, under the care of Dr. Thomson. The patient was attacked with the disease on board a man-of-war on the West Indian station, in June, 1845. The attack lasted nine months; and in the following July, severe pain in the right side and shoulder, accompanied with recurrent attacks of dysentery, supervened, and lasted three months. He entered the hospital twenty months after the first attack, when he presented the group of symptoms usually assigned to hepatic abscess, communicating with the lungs. These lasted to the day of his death, the fifteenth after admission. On examination, the upper lobe of the right lung was pale and crepitant, the lower hepatized, forming the wall of a large abscess between it and the liver, the diaphragm in this situation having disappeared; the abscess extended behind the peritonæum and kidney, as far as the cæcum, the pus burrowing among the abdominal and intercostal muscles; the liver contained numerous abscesses, of various sizes, on its right convex portion, and there were two cicatrices; the bronchial tubes opened freely in the upper part of the wall of the large abscess; the hepatic structure which formed the lower wall of the abscess was thickened and darkly injected; and three inches below it, a group of yellowish, gritty particles, surrounded by cartilaginous deposit, was observed; the remainder of the liver much enlarged; the portal system minutely injected; small intestines healthy to within a foot of the cæcum, with, however, here and there an effusion of granular lymph on the healthy membrane, in the form of bands; small ulcers on the upper part of ilio-cæcal valve and ilium close to it; the lower surface of valve and cæcum generally occupied by an immense ulcer, crossed here and there by bands of thickened mucous membrane, the muscular fibres forming its floor. All the ulcers were undergoing

repair by the laminated effusion of plasma over the surface, the fibrin also assuming, in some of the ulcers, a nodular appearance. The lymph, under both these forms, had been submitted to the microscope by Mr. Bowman, Dr. Parkes, and Dr. Quain, and the result of the examination showed that the process was in an early stage, no epithelium being detected.

Dr. Parkes remarked, that after a time the surface of these ulcers gradually assumes the appearance of mucous membrane, although he was by no means convinced that so compound an organ as the colonic mucous membrane was absolutely regenerated. He thought the decision of this fact a point of great interest, and although he felt certain that in the present case there existed spots of old cicatrization, the process was so much concealed by the recent ulceration, that he was deterred from drawing a conclusion, being incapable of pointing out a particular cicatrix.

Dr. CHAMBERS exhibited a specimen of
Hypertrophied Spleen.

The structure was extremely dense, exhibiting, on section, a beautiful mottled appearance; but under the microscope presented no obvious deviation from the normal character. The spleen measured about fourteen inches in length, and four or five in depth. It was taken from a strumous subject. The heart was quite healthy. A peculiarity of the case was the fluidity of the blood after death, and the presence in this fluid of a large number of granular, irregular, spheroidal bodies, twice or three times the size of the blood-corpuscles. This was the second case that had come under the notice of Dr. Chambers, in which the post-mortem phenomena were analogous.

Dr. JENNER recollected a similar case of hypertrophy of the spleen, with fluidity of the blood after death, under the care of Dr. Taylor, in University College Hospital.

Dr. NORMAN CHEVERS exhibited a specimen of

Enlargement of the Heart at Birth,

taken from an infant who lived eight hours. The funis and placenta were small. The infant, immediately after birth, breathed freely. On the tying of the cord, the colour of the surface became dusky, and the respiration soon afterwards embarrassed, without, however, any increase in the dinginess of the colour of the body. The respirations became gradually slower, and the child died without convulsions or apparent agony. The body was examined eighteen hours after death. The heart occupied the whole anterior part of the chest, with the exception of a small portion of right lung, which presented a little interlobular emphysema. The

pericardium contained a small quantity of clear fluid. All the cavities, particularly the right auricle, were dilated, the walls of the ventricles being thin. There was no valvular disease; the pulmonary artery wide; marked contraction of descending aorta opposite the left subclavian artery; arterial duct aneurismally enlarged, its interior of a dark red; ascending aorta rather dilated. This case, Dr. Chevers remarked, illustrated the first grade of that malformation known under the name of "descending aorta given off from the pulmonary artery," and alluded to the case published by Dr. Farre, in which the child lived eight days. The specimen also was of peculiar interest, in a medico-legal point of view, in reference to the above-described state of the arterial duct.

Dr. PEACOCK exhibited a specimen of
Carcinomatous Disease of the Pylorus.

The person from whom this specimen was removed was 42, and had been very intemperate. He had laboured under pain in the epigastrium, and frequent vomiting and confinement of the bowels, for six months. He was rarely able to retain food more than two, four, or eight hours; sometimes, however, the vomiting ceased for two or three days; but after these times he seemed to eject everything which he had taken in the interval. When the stomach was empty, he hawked up much glairy mucus, and occasionally vomited considerable quantities of clear but very sour fluid. The pain which he experienced was not severe, and he rather complained of a sense of weight and gnawing in the epigastrium. Pressure in that part excited some tenderness, and gave a sense of resistance, though no distinct tumefaction could be detected. The stomach was found larger than natural, and its coats were throughout much thickened, especially towards the pylorus. The mucous membrane was there much hypertrophied; and the sub-mucous, sub-serous intermuscular cellular tissue was infiltrated with dense whitish-coloured cancerous deposit, affording an example of the chondroid form. The coats at the pylorus measured eight French lines in thickness, and the aperture was reduced to a canal so small as barely to allow the little finger to be passed along it. The mucous membrane, at the cardiac side of the pylorus, was entirely removed, and an ulcer existed, with a hard, unequal base, and surrounded by an irregular, overhanging edge.

Dr. PEACOCK exhibited, also, a specimen of

Internal Strangulation of part of the small Intestine.

The preparation exhibited to the Society

was taken from the body of a man, 65 years of age, who was admitted, in a state of great collapse, into the Royal Free Hospital, and died before he could be got to bed.

The viscera of the head and thorax were found very free from disease. The left testis had not descended into the scrotum, and lay immediately external to the abdominal ring. The abdomen was tympanitic. The omentum was attached by old adhesions to the left iliac and inguinal regions. The small intestines were much inflated, intensely inflamed, and matted together by moderately firm lymph. From the point of adhesion of the omentum at the left groin, a fibrous band extended obliquely across the hypogastrium towards the right iliac region; and this, when two or three inches from the head of the cæcum, united with two loose bands of omentum, connecting it with the caput cæcum on the one hand, and the internal extremity of Poupart's ligament on the other. Between these bands a triangular space thus existed, having its apex at the union of the three, and its base formed by a portion of omentum attached to the cæcum, and to the parietes of the abdomen in the right iliac region. Into this space, a portion of the intestine was found to have passed from behind, and to have there become strangulated. The upper end of the strangulated portion was six inches and a half above the termination of the ileum; and the stricture was there so tight that the coats had become gangrenous; and on tearing apart some soft adhesions between the strangulated intestine and an adjacent fold, some fluid fecal matter made its escape. The lower end of the strangulated portion was two inches above the ileo-cæcal valve, so that its whole length was four inches and a half. At this point there was only a slight furrow in the anterior surface of the intestine; but on opening its interior, a polypus of the size of a large marble was found attached by a broad base to the anterior wall, and occupied so large a portion of the canal that the point of the forefinger could barely be made to pass behind and below it. The intestine above the stricture was extremely distended with fluid fecal matter, and its coats were intensely inflamed. Below the stricture, the intestine was empty and contracted; but with the exception of much thickening of the coats of the extremity of the ilium and of the ileo-cæcal valve, it was free from disease. A slight furrow on the external surface of the intestine, at a point thirty-three inches above the termination of the ilium, indicated the situation at which the long band of omentum, reflected from the left inguinal region, had crossed the gut. A hard tumor, of the size of a large walnut, was situated in the ileo-cæcal mesocolon. It was bounded by a dense and

thick fibro-cartilaginous cyst, and was apparently an enlarged and softened gland.

It appeared on the inquest which was held upon the body, that the man had been indisposed, and suffering from confinement of the bowels, for six days. He had, however, during this time, continued to follow his engagements, and went out as usual on the morning of his death. Owing to particular circumstances, it was impossible to collect any accurate information as to his previous state of health.

Medical Trials and Inquests.

ALLEGED FATAL EFFECTS OF ETHER IN SURGICAL OPERATIONS.

A CASE of considerable importance, as affecting the practice of subjecting persons about to be operated upon to the influence of ether, has just occurred at Grantham, in the county of Lincoln, in which death has resulted from that mode of treatment. It appears that a respectable woman, of the name of Ann Parkinson, aged 21 years, who had been married eighteen months, and had a child nine months old, had been afflicted with a tumor on the under part of her left thigh for about twelve months, which had gradually increased in size until, from its situation, it became a perpetual torment to her, so that she was unable either to sit down or lie in bed with any degree of comfort. Under these circumstances, having read of the many successful cases of operations performed without pain under the influence of the vapour of ether, she expressed a wish to her medical attendant, Mr. Robbs, of Grantham, to have ether applied, and the tumor removed. To this, after consulting other medical men, he consented; and on Tuesday, the 9th inst. at 1 o'clock, she was subjected to the influence of the ether, and the operation was performed by Mr. Robbs in the presence of three other medical men. Unfortunately, however, the poor woman never rallied, but remained in a state of complete prostration until 5 o'clock on Thursday morning; when she died without the slightest reaction having taken place subsequent to the operation. In consequence of these circumstances having become known, and much discussion having taken place on the subject, the matter came to the ears of the coroner of the district, Mr. G. Kewney, who, having made a strict inquiry into the fact, and having ascertained that, in the opinion of persons well qualified to judge, the death had resulted from the application of ether, thought it his duty to institute an inquiry, and accordingly issued his warrant for an inquest, which commenced

on Saturday, the 13th instant. In charging the jury, the Coroner, after recapitulating the facts of the case, made the following observations:—

"The case you are about to investigate is one of the most important that it has fallen to my lot to preside over, because, if it should be found, after a calm and deliberate inquiry, that the death of this person did result from the effects of the vapour of ether, and not from the tumor under which she was labouring, or from the operation which was necessary to remove it, it will become a question whether the person administering the ether is answerable for the consequences, or whether it is unsafe and prejudicial to life to pursue the practice of administering ether, which has been introduced apparently with great success in many cases. I have every reason to believe that Mr. Robbs performed the operation with that skill which he is known to possess, and no one can blame him for adopting a practice sanctioned by the highest medical authorities, and which has been used in all our leading hospitals, his object being the alleviation of pain and suffering; but it will be for you to say, after a calm and dispassionate investigation, whether in doing so he has strictly adhered to the rules laid down in such cases, or whether he has been guilty of criminal negligence, inattention, or rashness, in the manner in which he has treated the particular case before you. It must be remembered, that credit is due to him for endeavouring to extend the advantages of a discovery apparently calculated to relieve the sufferings of humanity; for it is too well known that many of the greatest discoveries in medical as well as other sciences have been violently opposed on their first promulgation, though ultimately found to be of the greatest benefit to mankind, of which the circulation of the blood and other equally striking instances may be mentioned. But, whilst he should receive encouragement upon this view of the subject, it must never be forgotten that he was bound to bring to the case under his management the greatest care, skill, and attention, of which he was master, and in no degree to exceed or go beyond the instructions laid down by the most competent medical authorities in similar cases; and the remarks contained in a portion of the charge to the grand jury at the Central Criminal Court, in a late case, appear to me to be so appropriate that I cannot do better than read them; they are as follow:—

"Although it would be very hard to make a medical man amenable to a charge of manslaughter because he happened to be unsuccessful in his treatment of any particular case, yet, on the other hand, it was necessary for the protection of the public that persons of the medical profession should

understand that if they chose to make use of dangerous and deadly ingredients they were bound to exercise the utmost care and caution in so doing.

"The interests of science required that there should occasionally be some departure from the beaten path prescribed by medical authority, and many important results had followed from such deviations, by the alleviation of diseases heretofore deemed incurable. But if dangerous experiments were attempted, the persons adopting them must be taught to keep within proper bounds, and that they must exercise the most ample caution in carrying out those experiments."

"If, therefore, you should find that Mr. Robbs has been guilty of culpable negligence, inattention, or rashness, it will be your duty, as jurors, upon the oath you have taken, which is paramount to all other considerations, to bring in a verdict of manslaughter against him; but if, on the other hand, you shall find, after bearing and weighing the whole of the evidence, that the death of Mrs. Parkinson was purely the result of the application of ether, as generally practised by legally qualified medical practitioners in order to alleviate pain under surgical operations, and not from any other cause, it will be your satisfactory duty to simply record that fact; and this inquiry may be the means of checking a practice that will then appear prejudicial to human life, and your labours may conduce, not only to the benefit of this immediate neighbourhood, but to the advantage of the public at large."

At the conclusion of the charge the coroner and jury proceeded to view the body, and the inquest was then adjourned till Monday, when it was resumed, and the following evidence was given:—

Elizabeth Leak deposed, that she is sister to John Parkinson, the husband of the deceased Ann Parkinson, to whom witness was also cousin. That her brother had been married to the deceased about a year and nine months, and she was in a very delicate state of health at the time of her marriage,—that is to say, she was what is called a very delicate woman, subject to cold upon the slightest occasion, but was not subject to any particular illness, and was not consumptive, as witness believes. That about three months after her marriage she became pregnant, and about three months before her confinement she complained to witness that she had a substance formed upon her left thigh, which caused her pain and impeded her walking. That she showed witness the place, and she, witness, observed a swelling about the size of an egg upon the under part of the left thigh, nearer to the body than the knee, and it caused pain upon sitting down. That she called in Mr. Bentley, a medical

man living in Spittlegate, to attend her, and he saw her and prescribed linseed poultice, and afterwards brought a plaster, which was applied, and causing great pain it was taken off before he ordered it to be so. That the tumor kept increasing, and Mrs. Parkinson was confined of a boy about nine months since, which was born at its full time, and she did very well, and suckled the child for about six months, when it was weaned. That during the whole of this period she was in good health, otherwise than as she was affected by the tumor before mentioned. That during all this time the tumor increased in size, and became a great impediment to her walking, sitting, or sleeping. That in January last she applied to Mr. Robbs, surgeon, Grantham, to attend her. That he did so from that period until her decease. That he ordered leeches, and made several punctures in the tumor; which, however, was not reduced, but rather increased. That in consequence of this, she wished to have the tumor removed, and wished witness to speak to Mr. Robbs upon the subject; which she, witness, did, and he said he would bring Dr. Turner to look at it. That he did so on Thursday the 4th inst. That at this time she had seen several reports of successful operations under the influence of ether, but had expressed her wish to have the tumor removed before she had heard of such mode of treatment. That when Dr. Turner came, he said he thought there was no other remedy than taking it away by an operation. That on the next day Mr. Robbs called to see the deceased, and asked her if it was her wish to have the tumor removed? and she said that it was; and it was then determined that it should be taken away, and it was also determined that ether should be applied. That about a fortnight or three weeks before, witness had asked Mr. Robbs what he thought of the application of ether, and he said he had no faith in it, but at the time in question he said he had performed an operation on a young man's toe with success, under the influence of ether. That witness, on the Saturday, the 6th of March, saw the young man in question, and asked him how he had felt during the operation? and he said quite comfortable, "that he felt quite like a fool;" and he said in answer to a question, that if he had to undergo another operation he would take the ether. That on the same evening Mr. Robbs administered ether to Mrs. Parkinson, in witness's presence, by causing her to inhale the vapour in order to see what effect it would produce upon her. That it made her laugh very much, and whilst under its influence she was pinched very severely; and when she recovered from its influence she said she felt

quite comfortable, and retained all the "consciousness of mind," but not feeling, but was aware she was being pinched, although she said it did not give her pain. That the operation lasted about 10 minutes, but the influence continued about two hours and a half, during which time she was hysterical. That on the following Monday evening she was again subjected to the vapour, when its influence was much more rapid, and she became quite unconscious in a few minutes—in about four or five minutes. That she remained so for about a quarter of an hour or 20 minutes, when she became conscious, but the effect of the ether did not leave her for about an hour. That on her recovery she said she knew all that had passed in the room, though she was apparently unconscious; that she could hear though she could not see. That she was not hysterical the second time. That after this it was arranged that the tumor should be removed the next day, Tuesday, the 9th inst. That she appeared to be in her usual health between the operations of Saturday and Monday; and on being asked if she felt at all unusual, she said her head felt heavy, which she attributed to her laughing so much whilst under the influence of the ether. That witness asked her, on Monday evening, whether she was determined to have the tumor removed? and she said she was; and witness asked her if she would have so determined even if the ether had not been discovered? and she said she should; this she also asked her on the Tuesday morning, and she again replied in the affirmative. That on Tuesday last, the 9th of March, about noon, Mr. Robbs, accompanied by Mr. Rogers, Mr. Priest, and Mr. Dibben, all medical men, arrived at Mr. Parkinson's, and the operation was performed. That it was about 1 o'clock that the ether was administered. That the apparatus consisted of a glass jar or globe, with a tube that was made to fit the mouth, and it was applied by Mr. Dibben. That in about ten minutes Mrs. Parkinson was reduced to a state of unconsciousness, when the operation of removing the tumor commenced, and she appeared to feel the first cut, as she made a deep mean, whereupon ether was again applied, but witness is not of opinion that she inhaled much more upon such second application. That the operation proceeded during the time the vapour was so inhaling the second time. That witness cannot positively state whether the ether was again applied during the operation, nor can she state positively whether the apparatus was kept applied to the mouth during the whole time the operation was going on. That Mrs. Parkinson was laid upon her stomach upon a table, and witness assisted in holding her during the operation,

and was placed about the lower part of her body, and did not therefore see her mouth. That upon every incision made during the operation she moaned, and appeared to feel it, as she struggled and nipped witness's hand; but she did not appear to feel anything when the different vessels were being tied up. That to the best of witness's belief the operation lasted an hour all but five minutes, when she was taken from the table and laid on the bed. She had a little brandy and water before the operation was quite over, which she swallowed readily, and a little more when she was put to bed. That she did not appear to lose much blood, and the wound was dressed after the operation, and bandaged, and, when put to bed, she appeared to be conscious. That shortly after she was in bed witness made her a little gruel, which she took, and said she felt better, but spoke in a very low and faint tone of voice. That she did not appear to rally at all from that time. That Mr. Robbs came to see her in the afternoon and evening, and desired her to be kept quite still. That on the following day she remained in the same low state, and Mr. Robbs saw her more than once, and sent her medicine, which was administered, and a little thin gruel and tea was given her by his directions, which was all the nourishment she took. That on Wednesday she complained of a numbness in both legs and the lower part of her back, and hot bottles were applied by Mr. Robbs's directions, but she was not relieved. That witness asked her if she felt pain during the operation, and she said she did when they cut, but not otherwise. That on the Thursday morning, about twenty minutes past 5 o'clock, she died without uttering a groan. That, from the time the operation was performed till her death, she never moved by her own power, but was removed, when necessary, by witness. That she seemed quite conscious during the whole time from the operation till her decease. That Mrs. Heaney, the nurse, was backward and forward in the room during the operation.

■ Mr. William Eaton, surgeon, of Grantham, proceeded with Mr. Shipman on Saturday, the 13th inst., to examine the body of the deceased Ann Parkinson, in the presence of Mr. Robbs, Mr. Mather, Mr. Kent, and Mr. F. Eaton, surgeons. Witness found on the left thigh a wound about six inches long, secured by sutures, which had the appearance of being the result of a recent operation. On examining it closely, he could not observe that any large nerve or blood-vessel had been injured. There were four ligatures which appeared to be applied to small branches of arteries. There was nothing in the appearance of the wound to account for speedy dissolution. The opera-

tion appeared to have been performed as correctly as it was possible for it to have been done. He next proceeded to examine the chest, and found nothing unnatural in its appearance. The lungs were healthy, but a little congested at the posterior part, which he ascribed to the position of the body. The heart was healthy, but rather flabby, and contained rather less blood than usual. The stomach contained a little fluid of a greyish colour, apparently gruel, and appeared to be healthy; and it, like the lungs, and from the same cause, was a little congested at the bottom part. The liver was of its natural size, but paler than usual, and softer in texture. The spleen was healthy and natural, as also were the intestines. The brain was quite healthy, with the exception of a little congestion in the upper part of the membrane of the anterior lobes. There was effusion in the ventricles of the brain. *The blood in general was rather more fluid than usual.* In his opinion, death was occasioned by the administration of the ether. He discovered nothing in the body or the wound that could be considered a sufficient cause of death.—(By the Coroner.) If a person were subjected to the ether, in case of an operation, the shock to the system would be greater than otherwise, as there would be two shocks to recover from,—one the result of the operation, and the other of the ether. There was no appearance of reparation in the wound—no lymph thrown over. The appearances of the body were the same as in a case recorded of the use of the ether followed by fatal effects. (The case alluded to was an operation performed by Mr. Nunn, of Colchester, upon Thomas Herbert, for stone, recorded in the *MED. GAZETTE* of March 5th.) He could ascribe the congestion in the membrane of the brain to no other cause than the administration of the ether. He supposed that prussic acid and ether would have the same effect upon the brain. The general appearance of the body was that of a healthy young woman, but rather delicate. The shock conveyed by the operation was not the cause of death. Deceased did not appear a person likely to die under such an operation. The tumor (handed to the witness) was what is termed an *osteo-sarcomatous* tumor, and was of a malignant nature, and likely to destroy life ultimately, but he did not think it had arrived at a point to cause death. The operation was not in a part to endanger the general health. The system of administering ether had been sanctioned by the highest authorities, and generally received in practice. He had inhaled it himself, and had operated upon a person labouring under its influence, but the patient had been very unwell for some time after.

Mr. Robert Shipman, surgeon, of Grantham, had heard the evidence of Mr. Eaton, and entertained the same opinions.

Mr. Robbs stated there were great authorities for the use of the vapour of ether, and read a brief account of a number of successful cases (we think twenty-seven,) to show that it had been sanctioned by some of the most eminent surgeons in the kingdom, and that they had found it necessary to cause their patients to inhale it for periods varying from one to twenty-five minutes.

The Coroner summed up, and the jury found a verdict, the substance of which was, that "The deceased died from the effects of the vapour of ether, and in which no blame whatever was attached to Mr. Robbs or the gentlemen who assisted him, they having the sanction of eminent professional men, and successful cases for the use of the ether, and their object having been to confer upon the deceased the benefit so many other persons had derived from its use."

* * Mr. Robbs has forwarded to us a very full report of this case, with remarks on the condition of the patient both before and after the operation. The proceedings at the inquest, as above reported, have been taken from the *Times*, and partly from a copy of the *Nottingham Journal* forwarded to us by a friend. As the report of the inquest was already in type, we have thought it advisable to retain it. Mr. Robbs's account of the case will appear next week.

There was not the slightest reason for insinuating a charge of manslaughter against Mr. Robb, for the unfortunate result. No surgeon could have acted with greater caution or prudence in the employment of ether. Whether the ether was or was not the cause of death is a question which the great advocates of ethereal inhalation will probably answer in the negative; the collapse will, by them, be attributed to the operation. We shall reserve our opinion until we have published Mr. Robbs's statement.

Correspondence.

ON THE ABSENCE OF THE CATAMENIA.

SIR,—The case of absence of the catamenia mentioned by Dr. Camps in your last number, is so interesting, that I have been tempted to search for similar cases on record. Many of the authors on midwifery allude to the occasional non-existence of the catamenia in women, but these females are described as usually of a masculine character, and therefore are probably more or less deficient in the organs peculiar to their sex.

A case very analogous to this is related by the celebrated Mr. Pott, of St. Bartholomew's Hospital, where a young woman applied for relief from what appeared to be an ordinary hernia on each side; as, however, it was found impossible to reduce the tumors, they were removed by an operation, and found to be the ovaria. "She has enjoyed good health ever since, but is become thinner and apparently more muscular; her breasts, which were large, are gone; nor has she ever menstruated since the operation, which is now some years."

The case of Hannah Brown is much too fresh in the memory of your readers to require more than a passing allusion to the occasional non-existence of the uterus as a cause of the non-appearance of the menses; and it is to be regretted that we can so seldom obtain a perfect knowledge of the condition of the organs of generation in such anomalous cases; there are, however, on record cases of protracted absence of the catamenia, where the internal organs must have been perfect; and these I will briefly narrate.

In the third volume of the *Memoirs of the Medical Society of London*, Dr. Perfect mentions the case of a widow in whom the catamenia appeared for the first time at the age of 47, and continued at regular intervals till her death at the age of 57: she had been married many years, and had never had children. Mauriceau, in his "*Observations sur la Grossesse*," describes, in Obs. 232, his visit to a woman, aged 34, who had never menstruated nor borne children. He found the os uteri open, rather tilted backwards, and the cervix very short. In Obs. 495, he mentions a woman, aged 25, from whom her husband meditated a separation on account of her sterility; in this case he found an imperforate hymen, which being divided, she soon after became pregnant.

Schurigius, in his *Parthenologia* (a curious collection of cases mentioned by other authors, and published at Dresden in 1729), gives many accounts of protracted absence of the catamenia in women, some only of whom conceived; I do not more particularly allude to these cases, as I have no means at hand of referring to their original authors.

The two following cases are analogous as showing an absence of the catamenia at the ordinary times, but it is very doubtful whether the discharge mentioned during the pregnancy was really menstrual. Mr. Perfect, in his "*Cases in Midwifery*," 1783, mentions a young lady who conceived and bore a child, and who had the catamenia regularly during her pregnancy, but never before or after; neither had she any other children. Deventer, also, in his *Ars Obstetricandi*, Leyden, 1732, knew a woman who never had the catamenia except while

pregnant, the flow ceasing on her delivery, and recommencing with the next pregnancy.

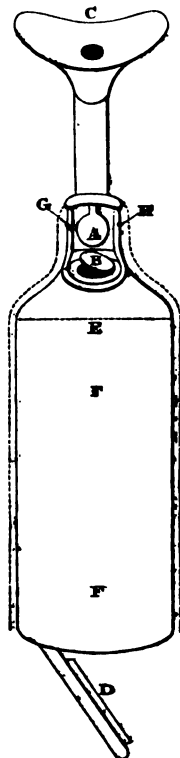
It would be valuable information if, in cases of absence of the menses in women of mature age, we could ascertain whether or not there is a discharge periodically from some other organ; as, for example, the case mentioned by Baudelocque, where a monthly vomiting and purging for two or three days, between the ages of 15 and 48, appears to have taken the place of the regular menstrual discharge.—I remain, sir,

Your obedient servant,
S. W. J. MERRIMAN, M.D.

26, Brook Street,
March 1847.

POCKET ETHER INHALER.

SIR,—Considering a pocket ether inhaler a desideratum, I wish to draw your attention to one which I have invented. It is simple, easily constructed, cheap, and may be made by any tin-plate worker. It consists of a tin flask (see figure), which holds eleven



ounces of water. Into its neck is screwed a tube, containing two clack valves,—one vertical (A), and the other horizontal (B). The mouth-piece (C), is exactly that of

a speaking trumpet. The bottom is made with a huge lid (D), for the introduction of a sponge into the flask. A and B are held to allow the expired air to escape; E is a wire-gauge division, to prevent the sponge, which occupies the space EF, from reaching the valve B. The lid D requires to be opened a little, when the instrument is in use, or it may have holes punched in it. The mouth-piece is bent forwards so as to allow the flask to be held erect when in use. This is the simplest form of the inhaler, but its power may be increased, or its size may be still further reduced, by using the expired air to heat and cause a quicker evaporation of the ether. This is easily effected in my inhaler, by adding a cover, as shown by dotted lines (see figure). When thus constructed, it is just a flask within a flask. The outer flask or cover encloses and covers in the holes A and B, which allow the expired air to escape from the valve A. This causes the heated air to circulate round the outside of the inner flask, thus heating and causing an increased evaporation of the ether. The sponge requires to be put in moderately tight, in order that all the inspired air may pass directly through it, and thus become in its passage completely saturated with the vapour of ether. The one I have constructed can be used either with or without the external cover. Without the cover, it readily narcotises the patient, though the space filled with sponge holds only nine ounces of water. It seems to answer the purpose as well as any of the complicated apparatuses: its small bulk must make it acceptable to surgeons generally. Some very neat single ones have been made by a surgical instrument-maker here*, of a flattened oval shape. The instrument may easily be modified to suit the taste of individuals.—I am, sir,

Yours, &c.

MATHEW FOULDS.

188, Buchanan Street, Glasgow,
March 1847.

THE PROPOSED CHARTER OF THE COLLEGE OF PHYSICIANS.

SIR,—I have just perused the leading article in the last number of your excellent journal, on the proposed changes in the charter of the Royal College of Physicians, and I beg to express my cordial thanks (in which I am sure many will join me) for your temperate and manly defence of a class of our profession whose just claims seem likely to be neglected and trampled upon by their unnatural foster parent, the College of Physicians.

It is now some years since I undertook a long journey of about 300 miles, going and returning, and put myself to considerable

* Mr. W. B. Hilliard, 88, Buchanan Street.

expense of time and trouble—and no little pecuniary loss—to present myself for examination before the *Elects*, and obtained their permission to practise physic out of London, which I had already been doing for some years, without let or hindrance, as a Graduate of Edinburgh. Now it appears that in the charter proposed, the College wishes to insert an enactment which will render all this a work of supererogation; and therefore I shall have lost my time, and the principal and interest of the money which I expended in going up to London, fees, &c., and submitting myself to examination at the College. And are we, the extra Licentiates, to be entirely overlooked, or thrown overboard? Is it unfair that we should expect either that we should be raised a step on the College books, or that the money, principal and interest, should be returned to us?

You have alluded to another instance in which injustice is about to be done to the extra licentiates to which I belong,—viz. that because some *extras* have been known to practise pharmacy or surgery, all are to be excluded from the fellowship and branded as an inferior class. But surely nothing can be more obviously unfair than such a wholesale condemnation for individual delinquency. Let such as have broken faith with the College, or have disgraced the class to which they belong, be excluded from the College, or put under its banishment, but such as have for years been practising with credit to themselves and advantage to the public, and as truly *pure* physicians as the College could desire,—to all such, I say, let the right hand of fellowship be given. There are many provincial physicians, though unknown in Pall-Mall, whose talents and qualifications, moral and intellectual, would not discredit any College of Physicians.

I greatly like the proposed change in the name of the College to that of the College of Physicians of England, but if it assume that proud title, it is, I think, bound to open its portals, as you have suggested, to all British physicians who have received their diploma after proper examination and study. And why should not this be the case? No measure, I believe, could be contrived which would tend more to bind us all in one great and happy community, and advance the College itself in the estimation of the public.—I am, sir,

YOUR obedient servant,
AN EXTRA LICENTIATE.

March 1847.

INHALATION OF NAPHTHA VAPOUR IN PHTHISED PULMONALIS.

SIR,—I shall feel obliged by your inserting the following in your valuable journal.

Having seen cases in King's College Hospital treated under Dr. Hastings' plan with naphtha, but without any striking beneficial results, and yet finding that the tubercular matter was dissolved when placed in the naphtha, I imagined that if the naphtha could by any means be brought into more immediate and direct contact with the tuberculous deposit, that the latter would undergo a similar change in the living body as it was found to do when digested in the spirit.

Having been in attendance for some time upon a young man in the last stage of consumption, who was completely worn out from want of rest owing to incessant cough, which had yielded to none of the ordinary remedies, I suggested to him the expediency of inhaling naphtha vapour. Before allowing him to do so I tried its effects upon myself, as I was very anxious, in consequence of the patient having had several frightful attacks of hæmoptysis. The apparatus used was the very simple and clever one of my friend Dr. Hawksley*, by means of which the naphtha vapour can be inhaled, mixed with the vapour of water, and diluted at will. The patient at the time was coughing violently,—at the commencement the vapour was very much diluted, but gradually increased, as no unpleasant symptoms were produced, until at last he inhaled the vapour almost pure. He expressed himself much relieved. Next morning I found him breathing tranquilly, and he told me he had passed a better night than for some months. He continues to inhale, and his condition is decidedly improving. He has had no further hæmoptysis, and his cough is so much less urgent.

However premature these remarks may be considered, being the result of but a single case, I trust that the importance of the subject may plead an apology, and lead to farther investigations as to the possibility of arresting a disease which has hitherto been almost universally considered hopelessly fatal.—I am, sir,

YOUR obedient servant,
JAMES DUNCAN, M.B., M.R.C.S.
1, Henrietta Street, Covent Garden,
March 1847.

CAUTION IN PRESCRIBING.

DANGEROUS remedies ought never to pass into the hands of the patients—at least, not in such quantities as might endanger life. It is a horrible sight to see vials of an ounce or half an ounce of laudanum in a sick room. If an accident happens in such a case, the fault lies always with the physician.—*Hufeland.*

* Made by Matthews, Portugal Street, Lincoln's Inn.

Medical Intelligence.

GLOUCESTERSHIRE MEDICAL AND SURGICAL ASSOCIATION.

SOME time since a meeting of this Association was convened for the especial purpose of considering what course should be pursued in reference to Mr. Wakley's new Registration Bill, when the following resolution was adopted:—

"That the Medical Registration Bill proposed by Mr. Wakley is cordially approved of by this Association, and that it be energetically and promptly supported."

The bill it is understood is now in the hands of counsel, but when the proper time arrives active measures will be taken to carry the resolution into effect.

LEGISLATION RELATIVE TO INTERMENT IN TOWNS.

WE are informed on good authority that a bill is already in preparation for the prohibition of the interment of the dead in large and populous towns. The bill will shortly be introduced by Government. We trust that this will prove to be the commencement of a wise system of sanitary legislation.

VISIT OF THE DUKE OF CAMBRIDGE TO ST. BARTHOLOMEW'S HOSPITAL.

HIS Royal Highness the Duke of Cambridge visited this ancient hospital on Friday last. He was received on his arrival by the president, Alderman Lucas; the treasurer, Mr. Bentley; the almoners, Mr. Josiah Wilson and Mr. Corney; Major Gibson and other governors, and the principal officers of the several departments of the institution. After having witnessed a very successful case of the application of ether for the operation of extracting a tooth, the Duke was conducted through several of the wards of the hospital, and inspected the extensive arrangements made during the last few years for the treatment of out-patients and casualties, of whom nearly 60,000 are annually relieved. He was conducted by the warden through part of the college attached to the hospital for the residence of students. He visited the church, the library, the anatomical and other museums, and the great hall, one of the most beautiful works of Gibbs, enriched by Hogarth's largest pictures and many admirable portraits. At a collation provided by the treasurer, as well as on several occasions during his visit, his Royal Highness expressed his gratification at the great extension which the hospital has undergone during the 40 years since he last visited the institution, and spoke much of the improved

system in every respect, especially of the plan of granting free admissions at all hours to the suffering poor, the addition of the theatre and special wards for patients the subjects of severe operations, the enlargement of the means of medical instruction, the encouragement of students by the foundation of scholarships, and the adoption of the collegiate mode and rules of living within the hospital walls.—*Times*.

ALLEGED MISMANAGEMENT AT THE MIDDLESEX HOSPITAL.

A SPECIAL general Court of governors was held on Saturday at this hospital, to receive a report of the committee appointed to inquire into the government and management of the hospital. Sir Robert H. Inglis took the chair. A dispute arose as to whether the apothecary and house-surgeon were entitled to be present at the Court. The chairman read one of the rules of the hospital (sec. 12, chap. 1), which prohibits their attendance, and which he (the chairman) said was absolute. The apothecary accordingly withdrew, and Mr. Rogers, who temporarily filled the office of house-surgeon, as a volunteer, tendered his resignation of that office, and remained in the room. Mr. Hawes read the report, which stated that the committee, having collected ample evidence, had come to the decision that the order, discipline, and cleanliness of the hospital by no means equalled those of other metropolitan hospitals; that the nurses were not engaged with sufficient care; that these facts proved the constitution of the weekly board to be defective; that the respective offices of matron, and secretary, and house-steward (the last two offices being held by one person), had not been properly filled, and that there was a want of cordial co-operation among the officers. The committee begged, with reference to these objections in the management, to suggest the following alterations:—

1. As regards the weekly board, that in lieu thereof there be a new general board elected, to consist of a president, vice-presidents, and 18 governors; that a book be kept, wherein to enter remarks and suggestions of improvement; that a sub-committee be appointed for visiting; that six lay governors go out of office annually by rotation, but that they be eligible for re-election.
2. That the offices of house-steward and secretary be no longer vested in one person, but that an active and competent house-steward be immediately appointed.
3. That the secretary no longer reside in the house.
4. The committee suggested that the duties of the matron require revision.
5. That the number of nurses is at present too few, the night nurses being allowed only six hours out of the 24 for rest.
6. That

in future there be a weekly report as to the management of the hospital. And lastly, 7, after mature consideration, the committee think it essential to the welfare of the hospital in general that Mr. Tuson, one of the surgeons, should resign his appointment. On the chairman putting to the meeting the question of the adoption of and printing the report, great objection was offered, on the plea that it was very undesirable to adopt so important a report without the most careful consideration. An amendment was also proposed, to the effect that, if the report were printed, it should be with the omission of the seventh suggestion respecting Mr. Tuson, it being contended that it would be highly unjust to that gentleman to cast any imputation upon him, or attach any

stigma to his character, when they did not even know of what he was accused. Sir Walter Stirling did not see that, in requesting Mr. Tuson to resign in consequence of there being a disagreement between him and the other medical officers, they cast any stigma on his character, either personal or official. With reference to printing the report without that part relating to Mr. Tuson, Mr. Malton did not think it competent in any meeting to adopt a report and then to print it only in part. After much discussion, an amendment was carried, resolving that four copies of the report and two copies of the evidence should lie on the table for the inspection of governors, until that day five weeks, until which time the meeting was adjourned.—*Ibid.*

STATISTICAL RETURN OF PATIENTS ADMITTED AND DISCHARGED FROM THE PARISIAN HOSPITALS DURING THE FOURTH QUARTER OF 1846.

		Patients on the 1st of the month.	Admitted during the month.	Total.	Discharged during the month.	Died during the month.
October	Hospitals .	5630	6610	12,240	5973	662
	Infirmeries .			11,509		180
November	Hospitals .	5605	6336	11,941	5607	596
	Infirmeries .			11,508		215
December	Hospitals .	5738	6594	12,332	5726	698
	Infirmeries .			11,450		271

HONOURS PAID TO AN ENGLISH PHYSICIAN AT TRIPOLI.

DR. JOHN DICKSON, a half-pay surgeon of the British Navy, who had been upwards of thirty years a resident at Tripoli, died there on the 27th February last. Such was the extent of his gratuitous attendance on the indigent that the mournful event was looked upon as a great public calamity, and, happening as it did at the very instant the first gun announced the anniversary of the birth of the Prophet, not a few of the Mahomedans regarded it with a superstitious awe. On the 1st of March, the remains of the lamented deceased were interred in the Protestant cemetery, which is distant about two miles from the town, escorted by a military guard of honour, sent by order of his Excellency, the Pasha, and followed, not only by every foreign consul, but by all the European residents of every class, and by several thousands of Jews and Mahomedans. So anxious were many whom he had attended professionally to pay this last tribute of respect to his memory, that they actually rose from their beds of sickness and joined the mournful procession, which, whilst it passed along the crowded streets, heard the shrieks and cries of the natives bewailing

his death issuing from the miserable hovels which he had been wont to enter to prescribe for suffering humanity. He has left a widow and large family to deplore his loss.

SAINT BARTHOLOMEW'S HOSPITAL.

MR. FREDERICK WOOD has been elected Apothecary to St. Bartholomew's Hospital.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination, and received certificates to practise, on Thursday, March 18th, 1847.—Robert Finch, Greenwich.—Robert Kemp Buckell, Southampton.—George Anstice Knott, Bristol.—J. Edmund Currey, Essex.

OBITUARY.

DR. WALLER.

ON the 25th of December last, at Mauritius, where he had gone for the benefit of his health, J. F. Waller, Esq. M.D., of the Island of Antigua, and late of 23, New Bridge Street, aged 39.

DR. VERONGE.

On the 16th inst., at Southampton, at the early age of 28, Julius Veronge, Esq. M.D., surgeon of the Royal West India Mail Packet *Dee*, beloved and lamented by all who knew him.

MR. C. AIKIN.

On the 20th inst., Charles Rochemont Aikin, Esq. of No. 7, Bloomsbury Square, aged 71. Mr. Charles Aikin had been for nearly half a century a Member of the Royal College of Surgeons. He was well known in the scientific circles of the metropolis, and was universally respected. Some years since, he was a frequent contributor to this journal of valuable practical papers on Vaccination, Pharmaceutical Chemistry, and other subjects. Although fitted to take a high rank as a man of science, he had, for many years previous to his death, led a comparatively retired life. He possessed an excellent practical knowledge of Chemistry, and was one of the few links which connected the great school of Priestley and Lavoisier with the present advanced state of the science.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer	30"
" " Thermometer	35.7
Self-registering do. max. 67° min. 9°	
" in the Thames water — 30° — 38°	

a From 12 observations daily. b Sun.

RAIN, in inches, 04: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was rather more than 8° below the mean of the month. The week was chiefly remarkable from the sudden access of intense cold, the thermometer sinking on Wednesday, the 10th instant, to within a few degrees of zero!

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Mar. 13.

BIRTHS.	DEATHS.	Av. of 5 Wint.
Males.... 740	Males.... 583	Males.... 542
Females.. 695	Females.. 533	Females.. 536
1435	1116	1078

DEATHS IN DIFFERENT DISTRICTS.

(See in number:—Registrars' Districts, 123. Population, in 1841, 1,925,104.)

WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,336)	151
NORTH—St. Marylebone; St. Pancras; Islington; Hackney .. (Pop. 366,303)	304
CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London .. (Pop. 374,739)	176
EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar .. (Pop. 303,347)	236
SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich .. (Pop. 479,669)	263
Total	1036

CAUSES OF DEATH.

ALL CAUSES	1908	1909
SPECIFIED CAUSES	1908	1909
1. Zymotic (or Epidemic, Endemic, Contagious) Diseases ..	128	68
<i>Sporadic Diseases, viz.—</i>		
2. Dropsy, Cancer, &c. of unaccounted ..	105	112
3. Brain, Spinal Marrow, Nerves, and Senses ..	176	120
4. Lungs and other Organs of Respiration ..	320	264
5. Heart and Bloodvessels ..	46	32
6. Stomach, Liver, and other Organs of Digestion ..	76	70
7. Diseases of the Kidneys, &c. ..	11	8
8. Childbirth, Diseases of the Uterus, &c. ..	12	12
9. Rheumatism, Diseases of the Bones, Joints, &c. ..	10	7
10. Skin, Cellular Tissue, &c. ..	6	2
11. Old Age ..	64	81
12. Violence, Privation, Cold, and Intemperance ..	18	20

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	7	Convulsion	22
Measles	5		
Scarlatina	18	Bronchitis	105
Whooping-cough ..	34	Pneumonia	65
Typhus	32	Phthisis	120
		Dia. of Lungs, &c. ..	28
Dropsy	10	Teething	12
Sudden deaths ..	10	Dia. Stomach, &c. ..	2
		Dia. of Liver, &c. ..	10
Hydrocephalus ..	45		
Apoplexy	32	Childbirth	9
Paralysis	20	Dia. of Uterus, &c. ..	1

REMARKS.—The total number of deaths was 42 below the winter average. Deaths from pulmonary diseases are slightly above the average.

NOTICES TO CORRESPONDENTS.

The correspondence between Dr. Gillham and other medical men, in Madeira, has been received.

The lecture of Dr. Laycock and the communications of Dr. Fuller, Dr. Haworth, Dr. Davies, Dr. Wright, and Mr. Hobbs, will be inserted in the following number.

A writer with a very long signature, who has addressed us on the relative value of the license of the Apothecaries' Society and the diploma of the Royal College of Surgeons, complains of the opinion expressed in our Notices to Correspondents, at page 366, that they who hold the College diploma, rank higher than those who have only an Apothecaries' license. One extract from the letter will suffice. "As your editorial judgement (sic) in this particular is in harmony with the present prevailing fashionable opinion, I fear any skeptical (sic) observations will be wanting in attraction." It does not appear to have occurred to the writer that what he asserts to be the prevalent opinion is likely to be true. So strong is this feeling, that the greater number of humanitarians consider their medical and surgical education incomplete unless they obtain the diploma of the College, which, as the writer of the letter ought to know, is honorary.

Among a number of letters which have been addressed to us, on Eber Vapour, we have been obliged to defer those of Mr. S. Tides and Mr. Richardson. They will appear next week.

Several communications have been received, to which answers will be given in the following number.

Lectures.

A CLINICAL LECTURE ON

PURPURA OR LAND SCURVY,

Delivered at the York Medical School,

By THOMAS LAYCOCK, M.D.

Physician to the York Dispensary, and Lecturer on the Theory and Practice of Medicine at the York Medical School.

Case of purpura or land-scurvy in a middle-aged man—description of the disease a century ago—another case in an old man—comparison of the cases and of written experience—the waxy pallor and vibices pathognomonic—rheumatismus scorbuticus of Sydenham—explanation of the symptoms—etiology of purpura—increased prevalence since the failure of the potato crop—to be distinguished from a hæmorrhagic diathesis—treatment.—Occurrence of incipient purpura or scurvy—symptoms—will probably complicate epidemical diseases—importance of hygienic prophylaxis.

SCURVY is the old name for purpura hæmorrhagica, and land scurvy for purpura without hæmorrhages: the two diseases are allied; they are only varieties of the same disease.

A comb-maker (an employment in which the wages are very small), came to the Dispensary two or three weeks ago, complaining of pains in his limbs, and particularly in his thighs. He had a very squalid appearance; was sallow, thin, and cachectic. I did not suspect scurvy, but rheumatism, and advised him to have a warm bath, more for the purpose of personal cleanliness than any thing else. After a while his wife came to say that he had purple blotches on his thighs, and she was much alarmed about them. In fact, they had just been discovered,—at the time of his performing the ablutions I recommended. We went to visit him, and these are our notes.

W. P., aged 46, with sallow, dirty, pale complexion, has a contraction of the muscles of the thigh and rigidity in the joints, so that he cannot stand upright, and "a touch of rheumatism" in his shoulders. There are patches of purpura on the under surface of each thigh; blueish purple blotches, mottled with yellow, like extensive ecchymoses. The upper and anterior surface of the right thigh is covered with petechiæ or small purple spots. There is a patch of purpura about half a hand's breadth on the outer surface of the right foot near

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the ankle, and another small patch half way up the leg; another patch is to be seen on the inner ankle of the left leg, and petechiæ on the upper half of the leg towards the knee; ankles œdematous. His gums are tender, of a livid red, swollen, and studded with fungoid growths; his throat is sore; has a slight cough; pulse 100—120, feeble and small; tongue pale, scabrous; bowels regular.

He has not been well for some time, owing, he thinks, to want. Has felt worse since Christmas. His diet has been principally bread and tea—perhaps once in every other Sunday a little bit of meat; no potatoes except as a treat. His house is damp, low, and offensive from defective ventilation and want of cleanliness.

As a pendant to these notes I will read to you the description of "scurvy" from a writer on the practice of physic (Dr. Brookes), the fourth edition of whose work I hold in my hand, published in 1763.

"The first sign of the approach of this disease is commonly a change of colour in the face, which becomes pale or yellowish and bloated, with a listlessness and an aversion to exercise. The caruncles of the eyes appear of a greenish cast, and yet in other respects the patient seems in perfect health. However, the change of colour in the face does not always precede the other symptoms, though it constantly attends them. Then a universal lassitude supervenes, and a stiffness and feebleness of the knees, with a difficulty of breathing on the least motion. Soon after this there is an itching of the gums, which swell, and are apt to bleed on the least friction. Then they become livid, soft, and spongy, and afterwards extremely putrid and fungous.

The skin is dry throughout the whole course of the disease, except towards the last, and in many it is rough. In some it appears like the skin of a goose, but it is most frequently smooth and shining. It is stained with blue, purple, livid, or black spots, some of which are small and others of a hand's breadth, when the disease is advanced. They are chiefly on the legs and thighs, but sometimes on the arms and trunk of the body. Some have a swelling of the ankles in the evening, which disappears in the morning," &c.

Now there is a close resemblance between this description of scurvy, written ninety years ago, and the symptoms of the case we visited. But we left the squalid cottage of W. P., to proceed to that of J. B., an old pensioner, aged 74, and living in a low room in a damp situation. He was a sergeant and corporal in the militia for many years afterwards worked as a sawyer. His face is pale and of a sallow waxy hue; this appearance of pallor has become most remarkable

during the last fortnight, and for about the same period he has had certain appearances on the skin. A large livid reddish purple patch extends from the middle of the right leg on its outer surface to the middle of the right foot. The foot and leg are cedematous, shining, and hot. Higher up are scattered petechiæ (which extend also to the thigh), and a diffused yellowness. There is a hard livid tumor near to the insertion of the psoas muscle on the upper and inner part of the left thigh, which is surrounded by a yellow surface fringed with a circular line of purplish blue. Small petechiæ cover the thigh, and livid patches are on the under surface of the thigh, extending to the ham. Complaints of feebleness, but of nothing else except pain between the shoulders, slight cough, and difficulty of breathing. Pulse 105, intermittent; heart's action unequal and intermittent, but no murmur or morbid sound audible. A slight wheezing or crepitous rattle in the infra-scapular regions, especially in the right. Urine, according to Mr. Brady's examination, high coloured, specific gravity 1020, contains no albumen; tongue, clean except posteriorly; gums unaffected; appetite impaired; bowels confined. Has always experienced good health, and never took anything since he had a dose of salts when he had the ague in Lincolnshire, with blebs (pemphigus) all over his body, but which soon passed away. Has never tasted a potato since Christmas; had plenty before. Has not had butcher's meat oftener than once in a month. Has now and then eaten a salt herring, but has lived almost entirely on bread and tea.

This case resembles the preceding in several points: first, in the peculiar waxy complexion, and the vibices of the legs. These are leading symptoms of scorbutus. Sydenham says, "*Crurum nunc intumescit, nunc extenuatio; in iisdem perpetuo maculæ lividæ, plumbeæ, flavæ, aut violacæ; faciei color plerumque ex pallido fuscus.*" In the old man there were no muscular pains; in the comb-maker these were, and indeed are, leading symptoms. The patient himself thinks he has rheumatism. Now Sydenham expressly treats of a species of rheumatism under the term *rheumatismus scorbuticus*. But I do not think much of the old man saying he has no pain; he is evidently very lame and infirm; his neighbours say he has failed in this respect very much lately. The fact is, very aged persons often have great disease with little suffering—pleuritis or peripneumonia, for example—and will never complain of pain, or even of difficulty of breathing, although they are panting for breath. The greatest difference in the two cases is in the condition of the gums: the old man's are sound,

or nearly so. In both there is some degree of bronchitis. In the old man the cardiac disease is nothing more than that which may be found in 95 per cent. of persons of his age. He has probably that atheromatous degeneration of the valves and endocardial membrane so constantly met with in old people, so that the cardiac disease has no immediate connection with the purpura, and the bronchitis is probably the result of the severe cold of Wednesday, the 10th instant.

These two cases of purpura are, in truth, cases of land scurvy. The two men are suffering from a lesion of the capillary system, and of the blood itself. If we dare venture to draw blood we should find it to be deficient in fibrine; the coagulum would be gelatinous; and if the disease be not checked it will go on through all the stages of scurvy, even to the formation of the gelatinous clot or fungus on the skin and gums, termed by sailors "bullock's liver," and the occurrence of spreading ulcers, anasarca, hæmorrhagic effusion into the serous sacs, and death.

The explanation of the symptoms is not difficult. The morbid condition of the blood has impaired the contractility of the vascular system. In the depending portions of the body the capillaries give way from the mere gravitation of their contents; thus giving rise to the vibices in the legs, and in the under surfaces of the thighs. The petechiæ are really small inflamed or congested papillæ, or the mouths of sebaceous glands. The muscular pains are those of fatigue; there is not enough fibrine in the blood for the nutrition of the muscles and the maintenance of their action.

With regard to the etiology of the disease, it is doubtless that of scorbutus, or scurvy. It is in this respect that the cases are interesting. We do not notice them because they are rare or curious (although they are so in York), but because it is probable that they will cease to be rare and curious. The potato has hitherto supplied our population with an abundance of fresh vegetable food, containing a small quantity of a vegetable acid (the tartaric) in combination with potass; and no doubt the free use of this vegetable has tended to render scorbutus much less prevalent than before its introduction into this country. The deaths from purpura in London during the quarter ending with December for the last seven years were in each respectively 3, 2, 4, 4, 6, 8, 5, so that there has been a gradual increase; but during the first ten weeks of this year there have been 14 deaths in the metropolis from purpura, or scurvy. This is a great increase; for during the thirteen first weeks in each of the last eight years the deaths registered from this cause were—3, 4, 0, 3, 2, 5, 2, 5; so that

the deaths in this one quarter will probably amount to more than have occurred in the corresponding quarters of the last six years put together.

In the two cases under treatment potatoes have ceased to constitute an article of diet. The old pensioner anterior to Christmas almost lived on potatoes; since, he has not tasted one. The diet of both patients has been unvaried; there has scarcely ever been a change from the constant diet of tea and bread. The tea would doubtless be made weak, from the extreme poverty of the parties, so that in reality the two men have been living on a diet little better than bread and water, with sugar and a little butter. This ought not to have been—indeed, it need not to have been, for a most efficient soup kitchen has been open in York during the winter; but the pensioner was infirm, and lived alone, and the squalor of the other person's residence showed there was no management or help in himself or his wife. Everything was dirty: even the cat was smutty.

We need not, then, look for the cause of this form of purpura (as some writers recommend) in disease of the heart. The experiments of Dr. Stark on his own body (for he forgot the maxim, *experimentum fiat in corpore vili*, and killed himself experimentally when he should have killed a monkey, or an ass, or a cow), these experiments show the effect of such a diet as our patients have had. Dr. Stark lived for 32 days on bread and water, and afterwards on bread and water and sugar. The result was purpura or scorbutus; that is to say, ulcers within the mouth, redness, swelling, and bleeding of the gums and nostrils, and vibices, or purple spots and marks on various parts of his person. In the second volume of the Transactions of the College of Physicians (published, by the by, seventy-five years ago), there is the history of two cases of scorbutus, communicated by Dr. Milman, in which the disease appears to have been caused by a bread and tea diet. More recently, Dr. Baly has shown that scurvy was most prevalent in prisons where no potatoes were used. Various other causes of scorbutus have been assigned. It has been observed to occur in persons with a sufficiently nutritious diet, and, indeed, in the volume to which I have just referred, there is a case, by Dr. Munro, of purpura hæmorrhagica, or inveterate scurvy, occurring in the person of a young man who had an ordinary diet, but possibly without potatoes, as he had "greens or roots for dinner, meaning, perhaps, by "roots," turnips, carrots, or parsnips. In this case the pulse was strong and full. It is to be remembered, however, that there are persons in whom the tendency to purpura hæmor-

rhagica is congenital and hereditary, and is dependent upon the peculiarities of the male constitution, inasmuch as the disease appears only in the male branches of a family of "bleeders," as they are termed. An hereditary disease of this kind may undoubtedly be acquired; in the examples mentioned it cannot have been hereditary *per sæcula sæculorum* backwards, and consequently, as it may be acquired, it may appear independently of defective alimentation, or of the defective supply of certain chemical constituents of the blood. This form of purpura is, however, quite distinct from the one under consideration, which arises from the causes just mentioned.

If, then, you have persons living on a diet such that there is no variety, or no vegetables containing vegetable acids—as the tartaric, oxalic, malic, or citric—they will be in danger of suffering from scorbutus or scurvy. And those persons will suffer the soonest who have the least power of resistance to the evil effects of this kind of diet, whether from congenital or acquired debility of the system, from indigestion, or other disease impairing the power of assimilation, or from depressing external agencies in the *circumfusa*, as they are termed—as cold, or a raw, moist, or impure atmosphere, or excessive heat. Other depressing agencies are, extreme fatigue, or the want of exercise, the depressing emotions, excessive watching, &c.

The treatment is obvious from the etiology. The diet must be regulated so that there shall be due variety, and that vegetables containing the acids named should enter into it. We have prescribed meat, porter, and potatoes, for both our patients, and they will, I trust, be able to attend to this part of the prescription. In addition, four grains of citric acid is to be taken every four hours. The pensioner is already improving; the comb-maker has not yet had his diet long enough from the poor's board. I may mention, however, that citric acid, although the established remedy in these cases, has sometimes failed in effecting a cure, or preventing the disease, on board ship. Nitrate of potash has been found to be an efficient substitute, and as gunpowder contains nitre, the remedy can be extemporized during a voyage by pouring boiling water upon the powder, and filtering. Citric acid is, I fear, somewhat adulterated, and probably a spurious article has been used when it has failed to check the disease. Of course, lemons and oranges are beneficial, but there are cheaper vegetables than these to be got as the spring advances. Rhubarb, cabbage, water-cresses, sorrel, horse-radish, turnip-tops, all belong to the class of anti-scorbutics, and were taken extensively in the spring by our forefathers (who had few fresh

vegetables, and little fresh meat, during the winter) as "purifiers of the blood." Formerly a spring course of vegetable alteratives must have been highly beneficial; in our forgetfulness of the social condition of our forefathers, we slight their experience, and the traditions thereof. I see "nettle-beer" advertised in a shop window as an anti-scorbutic, and I rather think the urtica, from containing the nitrate of potass, will be a useful addition to the spring dietary. Nettle-tops boiled can scarcely be distinguished from spinach, if taken when young, and well seasoned.

The results of the deficiency in the potato crop will not appear only in the outbreak of palpable purpura or scorbutus. People are continually coming to us complaining of the premonitory symptoms; as lassitude, spongy gums, sore mouth, "flying" muscular pains, and with a certain waxy pallor. They have also anorexia, and epigastric pain, with slight feverishness. In these cases it is almost invariably stated that potatoes have ceased to be an article of diet, and that bread is "the staff of life." It is to be observed, too, that in case the typhus fever now prevalent in Ireland make its way into our large towns during the summer, we shall have the "spotted fever" of our forefathers, in addition to the "purples," as purpura was termed. In short, we shall have all fevers assuming the appearance of greater malignancy which the outbreak of petechiæ, vibices, and venous hæmorrhage, gives to them, and these will characterise scarlet-fever, small-pox, and measles, as well as typhus. Now the prophylaxis is all-important: no pains should be spared to encourage the daily consumption of such vegetables as I have mentioned; the reasons should be pointed out—their force will easily be appreciated by the public; a demand for fresh vegetables will be created, and the supply will follow as a matter of course. Thus medical science will fulfil its highest duty—the prevention of disease.

I ought to add, that in his last Quarterly Report, the Registrar-General called public attention to the necessity of substituting suitable vegetables for the potato with special reference to the prevention of scorbutus.

DISAPPEARANCE OF THE CHOLERA FROM DAMASCUS.

WE are glad to find by the latest intelligence received from Syria that for some days no death had taken place from cholera in Damascus, and there was great reason to believe that the pestilence had disappeared from that city.

A COURSE OF LECTURES ON DENTAL PHYSIOLOGY AND SURGERY,

Delivered at the Middlesex Hospital School,

By JOHN TOMES, Esq.

Surgeon-Dentist to the Hospital.

LECTURE XI.

Disease of the dental tissues—Necrosis—Exostosis—Abscess in the substance of the dentine—Loss of enamel and dentine from the anterior surface of the teeth—Absorption of the fangs of the permanent teeth—cracks in the enamel—Pain in sound teeth.

DENTAL necrosis, by which is meant the death of the whole or a part of a tooth, but, unlike caries, is not usually attended by decomposition of the dead tissue. When the whole of a tooth loses its vitality we have complete necrosis; when only part dies we have partial necrosis. In complete necrosis the fangs are entirely denuded of living periosteum, and the pulp dies; in partial necrosis the dead portion of the fang only is deprived of its periosteum, and the pulp of the fang in the majority, though not in all cases, dies.

The physical changes in the dental tissues indicative of complete necrosis commence with the death of the tooth, but from their slow progress some time elapses before they become discernible. The tooth gradually assumes a darker hue than natural, which increases in intensity till it is almost black. The dental periosteum gradually detaches itself from the fang, the tooth becomes loose, and, unless held in by the crooked form of the roots, drops out. The surface of the fangs are generally rough, and, near the neck, dotted over with nodules of hard green-coloured tartar, while the ends of the roots often look worm-eaten, as though absorption had commenced. In some cases, where the teeth are dark and look wholly dead, and produce irritation in the alveolus, we find, on some parts of the fang, patches of newly-formed cementum, to which the periosteum is strongly attached, and the tooth is thus firmly held in its place. In these instances the death of the tooth must have proceeded gradually, and the periosteum subjected to that species of irritation leads to the formation of cementum. Dental necrosis may result from mechanical violence, or from inflammation of the alveoli; severe salivation and fever are sometimes productive of this disease; absorption of the alveoli with advancing age may also lead to necrosis; but usually, the tooth in old age is connected with the dental periosteum, and the

pulp lives till the tooth, having lost all natural support, is forced out.

The effects of death of a tooth upon the neighbouring parts vary with the nature of the producing cause; if a severe blow be the cause, the inflammation consequent upon the injury done to the tooth and alveoli will be acute, and if not wholly caused, in the first instance, by the death of the tooth, but arises from the injury the parts have conjointly received, will be kept up and even extend so long as the tooth is allowed to remain. But if, on the other hand, the dental necrosis be the consequence of a slight blow, or result from any deranged state of the system, the gum and alveoli may become but slightly inflamed and thickened; pus will be discharged from the alveolus, and cease only with the removal of the tooth; whether this be effected by extraction or by absorption of the alveoli and consequent extrusion of the dead tooth.

Mr. Fox in his practice attempted to save teeth where the pulp was exposed and painful, by carefully dislodging the affected teeth from the alveoli, and thus breaking off their connection with the nervous system. In some cases the experiment was successful, the tooth reunited to the periosteum of the alveolus, but in the great majority of cases it did not reunite, and the tooth then of course became dead. In narrating these cases he gives an excellent description of the effects of sudden and complete necrosis of a tooth upon the alveolar periosteum. He says, "the method I adopted was to raise the tooth, by the common operation of extraction, so high in the socket as carefully to break the nerves and vessels which enter the extremity of the fangs: then, in withdrawing the force, to put the tooth back again into its former situation. I not only recommended this operation, but performed it upon a great number of persons, and, for a short time, flattered myself with very sanguine expectations: these, however, were gradually destroyed, for some of my patients, in about three or four weeks, came complaining of pain, and were anxious to have the tooth completely removed. They did not suffer the tooth-ache so acutely as before, but the tooth had become loose and was protruded from the socket, so that whenever the mouth was closed the pressure of the teeth of the other gum against the tender one occasioned great pain. On extracting these teeth I found the fangs covered with a considerable quantity of coagulated lymph." I have seen many cases, where teeth, dislocated from a fall, have been returned to the alveoli, but could not be retained; if they are speedily removed we find a coating of what Mr. Fox calls coagulated lymph, but if allowed to remain a little longer, the lymph is replaced by, or infiltrated with pus.

The consequences upon the neighbouring parts, when necrosis occurs without previous absorption of the alveoli, and the tooth is allowed to remain, are often more serious than those I have at present noticed. The periosteum of the alveoli becomes inflamed together with the neighbouring parts: if the case be still neglected, the adjoining teeth are not unfrequently lost, and necrosis of a considerable part of the jaw may also result. Cases of this serious description sometimes come from a blow, but occasionally result from alveolar inflammation. Should, however, the inflammatory action be less severe, the gum and alveolus of the dead tooth may alone be affected; the tooth will then become gradually loose, the gum will be inflamed and thickened, and pus will be discharged from between the tooth and alveolus whenever the gum is pressed: this continuing, the tooth becomes more loose, and at last falls out, and the gum resumes a state of health. In teeth where necrosis has been gradually produced the tooth is generally wholly deprived of periosteum: when the death has been the result of violence, or of active alveolar inflammation, you will, on removing the tooth, find shreds of dead periosteum, infiltrated with pus, adherent to the surface of the fang. In partial necrosis of teeth the extent of the disease may be very limited, or the greater portion of the tooth may be involved; but, whether the extent be great or small, the necrosed portion is deprived of periosteum, and presents, on examination, a more or less rough surface. Whether or no the dentine be discoloured will depend upon the situation of the necrosed portion. Thus, instances are not uncommon when the pulp of the tooth has died while the external surface of the fang has preserved its vitality. In these cases the dentine becomes discoloured, and gives a general dark appearance to the tooth. On the other hand, nothing is more common than necrosis of the extremity of the fang while the remaining portion of the tooth retains its vitality; but here we find no discolourment, though the extent of the necrosis is clearly marked by the adhesion of the periosteum to the living portion, and its separation from the dead portion of the fang. In all cases of partial necrosis where the neck of the tooth retains its periosteal covering, with which I have become acquainted, the separated periosteum forms a sac round the dead dentine, the inner surface of which sac secretes pus, and, in fact, forms the coat of an abscess. Partial necrosis seems generally the result of inflammation of the dental periosteum or of the pulp, and may be situated in any part of the tooth, but it is far more common to find it about the apex of the fang, resulting from inflammation of the periosteum commun-

cated by inflammation of the pulp. But instances are not very rare in which the necrosed portion occupies a circumscribed spot on the fang, or below the fang, of a molar tooth. The following is generally typical of such cases. A male patient of twenty-eight, applied to have a tooth removed, in consequence of severe pain. On examination, the tooth, a first molar of the upper jaw, appeared perfectly sound and healthy, but the gum was inflamed opposite the root of the tooth. The gum was lanced, a little pus escaped, and the pain ceased. In a short time the patient again applied, for relief from severe pain in the same situation, and insisted on the tooth being removed. He said that excessively severe pain had at short intervals attacked this tooth, and though generally reduced by lancing the gums, yet the inconvenience was too great to be endured for the sake of the tooth. On removal, a circumscribed spot of necrosed dentine was found between the fangs, from which the periosteum had separated and dilated, thus producing absorption of the alveolus between the fangs. The so-formed sac was full of pus: the tooth was otherwise healthy, and of good colour. Whether inflammation of the periosteum, and consequent separation, was the primary condition, or whether necrosis was the first abnormal state, would be difficult to determine, but that the necrosed condition of the dentine was the cause which kept up the diseased state of the periosteum admits of no doubt.

Towards the middle or later period of life, the molar teeth are occasionally rendered painful and useless from necrosis of one of the fangs. I will recite a case that recently occurred to me. A male patient, aged 48, applied to be relieved of a troublesome tooth, of which he gave the following history. Twelve months since the tooth became slightly uneasy on contact with hot or cold fluids; after a while, he discovered that it was slightly loose; still mastication produced little or no pain. The inconvenience gradually increased, till at last severe pain was felt whenever fluid differing in temperature from the mouth came in contact with the tooth. Pain, too, was occasionally produced by mastication. On examining the tooth—a second molar of the upper jaw—about the crown no morbid appearance presented itself, but the inner fang seemed more exposed at its base than usual. The gum about it was a little thickened, but not inflamed; a probe, however, could readily be passed down into the socket without meeting any obstruction: this at once proved the fang to be necrosed. The tooth was removed, and the inner fang was found to be perfectly unattached, was rough and discoloured. The two external fangs were

healthy, and the tooth in no part carious. Had this tooth been allowed to remain, the process of absorption of the alveolus and gum of the affected fang, which had already commenced, would have gradually advanced, and the fang in the process of time would have been left exposed in the mouth. The case I have detailed to you is not in any way peculiar; it is, in fact, a specimen of a very common complaint, the only remedy for which is extraction of the tooth. In these cases the pain felt on the application of hot or cold fluids is, I believe, seated in the alveolus occupied by the dead fang, which, being unattached, not only prevents the alveolus from filling up, but allows foreign matter to get into it, and keep up irritation, as well as producing irritation itself. Distinguished from total ne-

FIG. 35.



Fig. 35.—A molar of the upper jaw, with the inner fang necrosed, and the gum, the alveolus, and dental periosteum of that fang consequently absorbed.

crosis of a fang is death and discolouration of one side only: we have occasional opportunities of seeing, in the molars of the upper jaw, the lingual side, or the buccal side of the gum and alveolus, completely absorbed, leaving the fangs completely exposed in their whole length, while those surfaces of the fangs which are opposed to each other are strongly attached to the periosteum and to the alveolus, which lies between the fangs. In these cases but little uneasiness is felt; the teeth remain useful to the last.

There is yet another form of partial dental necrosis: the pulp sometimes dies, and with it the surface of the pulp cavity, while the outer surface of the fang retains its vitality. The tooth, in this case, gradually darkens in colour, but the periosteum remaining healthy, the tooth is retained, and may be useful for years. On the other hand, the periosteum may be slightly affected and yet practically give no inconvenience to the patient. Such teeth are usually retained, and continue useful for an indefinite period. But unfortunately the periosteum of alveolus, and of the tooth, continuing in this state, is rendered very liable to inflammation, which, on its occurrence, renders the removal of the tooth imperative. In the operation of

pivoting, or grafting, as it is sometimes called, the crown is removed, while the fang is permitted to remain in the gum. The pulp of the fang is destroyed by a fine steel probe, and the cavity enlarged to hold a piece of gold wire, to which is attached the crown of a foreign tooth. Here we produce death of the pulp, and hence necrosis of the inner portion of the fang. The external surface of the fang may, and does, in the majority of cases, remain healthy, though in a few individuals, unfortunately, the opposite result occurs. The fang becomes necrosed, the periosteum inflames, and the fang would be eventually dislodged, but that the degree of risk of more extensive mischief and of suffering, from the inflammation of the surrounding textures, renders the removal of the fang necessary long before nature could have completed her process of extrusion.

I shall describe several cases in which serious consequences followed the operation of pivoting, when we come to the consideration of that subject.

Dental exostosis, or hypertrophy of the cementum of the fang.—It will not be forgotten that the surfaces of the fangs of teeth are coated with a thin layer of cementum. Under certain circumstances this layer becomes increased in thickness by additions on the external surface. The newly added cementum is in every way similar in structure to that previously forming part of the tooth.

You have learned from your pathological lecturer, that a natural tissue increased beyond the natural amount constitutes a disease, by changing the size and figure of the affected organ, and hence encroaching upon neighbouring parts. When the cementum of the tooth becomes developed in an unnatural degree, the form of the tooth becomes changed, and we have exostosis. With the increase of size in the fang of the tooth there must be a corresponding increase of capacity in the containing alveolus. In dental exostosis the amount of new cementum may be very slight, or it may be considerable in quantity. The affected fang may be but

slightly enlarged, or it may be increased to twice its natural size. Near or about the end of the fang is the most common situation to find the greatest amount of cementum: but you seldom find an increase on one side of the fang only, unless the opposite side has been exposed by the absorption of the gum, or deprived of its periosteal covering. It is not rare to find the thickening commence abruptly above the necrosed extremity of the fang usually present in chronic gum-boil. You will also find cases in which the dentine of a fang has been necrosed, and the fang itself been thrown up and lying in its length on the surface of the gum, held in that situation by a patch of new cementum, which has been deposited on and is adherent to the stump. The periosteum of the new cementum then connects the stump with the gum. A short time since, a patient applied to have the fang of a second bicuspidis removed. She stated that she had suffered a great deal of pain, which, commencing in the tooth, extended to the side of the face and the head. The pain was remittent, lasting at one time for many hours, at another time only for a few minutes. It was not until after several attempts had been made, and with the application of considerable force, that the removal of the offender was effected. There was great exostosis, and the difficulty arose from the fang near its extremity being twice the diameter of the neck, where it was closely embraced by the alveolus. The surface of the hypertrophied part, like that of other teeth similarly affected, was smooth, but pitted, unlike the smooth and even surface of the fang of a healthy tooth. The orifice admitting the vessels and nerves into the pulp cavity, small in the healthy tooth, is comparatively large in the new cementum of exostosis, and its edges are rounded. Dental exostosis is caused by that condition of the periosteum which is called irritation—a state usually induced by pre-existing disease in other dental tissues, and, in a great majority of cases, by caries: not always, however. In the specimen be-

Fig. 36.



Fig. 36.—A second molar of the lower jaw, with necrosis of the posterior fang, accompanied with absorption of the alveolus. The crown perfectly sound.

fore you, from which the figure has been taken, the tooth appears in all respects healthy, excepting the exostosis of the posterior fang. (Fig. 36). In bones we find exostosis situated in the immediate neighbourhood of inflamed parts. It is also exceedingly common about the sheaths of the tendons of the fore-legs of horses subject to be rode at a fast pace on hard roads, whereby the feet and legs become injured, and often slightly inflamed, and is called a *splent*.

The fangs of teeth that have been pivoted are very liable to exostosis, and with it thickening and increased vascularity of the gum belonging to the tooth. In teeth connected with chronic gum boil from necrosis of the extreme end of the fang, exostosis of the upper part of the fang is very common.

In all these instances we find hypertrophy of the cementum brought about in or by the vicinity of diseased action.

The *symptoms* of dental exostosis are not in all cases sufficiently distinct from those indicating other diseases to enable the surgeon to recognise the exact nature of the malady. When fangs that have lost their crown by caries are subject to this disease, the gums are usually thickened, are of a deep dull red colour, and bleed readily. The surface of the gum is sometimes smooth and shining; at others is rough and granulated, and the edge, instead of becoming gradually thinner to its termination on the neck of the tooth, ends by a thick, broad, flat edge, in which change of form the edge of the alveolus also participates. The condition of the gums I have just described is very commonly seen when the incisors of the upper jaw are affected with exostosis, and I have observed is frequently confined to the anterior or labial surfaces, while the surface of the gums within the mouth are comparatively free from disease. We may, however, have exostosis without any disease in the gums. Pain is not a constant attendant on exostosis, though in most cases it is occasionally present, and, when present, is generally of a gnawing character. In cases of sympathetic affections induced by dental exostosis, pain in the affected teeth, so far as my experience goes, is very commonly absent.

Of the various dental maladies, exostosis is the most frequent source of sympathetic disorders. The affections so induced are usually confined to functional derangement of the whole nervous system, or the nerves of some particular part.

I need not do more than remind you that, in whatever part of its course a nervous fibre be subject to irritation, the effect produced by that irritation, whether it be suspension or derangement of function, will be felt in the part to which the nerve is ultimately distributed, and that you may or

may not have pain in the part where the irritation is applied. Again, if the whole or part of the nervous system be predisposed to any special disease, irritation applied to any set of nerves may induce that disease, the degree of irritation being wholly insufficient to excite the sympathetic malady had there been no predisposition. Thus, diseases of the teeth will occasionally produce epilepsy where there is a predisposition to that complaint. *Tic douloureux* is also sometimes brought on by the like cause. The following case will illustrate the point under consideration:—A lad, a farm labourer, from Windsor, was admitted into the hospital for epilepsy. The usual remedies were tried for six weeks without effect. His mouth was then examined, and the molar teeth of the lower jaw were found to be much decayed, and of some of these the fangs only remained. He did not complain of pain in the diseased teeth, or in the jaw. The decayed teeth were, however, removed, and the fangs of each were found to be enlarged and bulbous from exostosis. At the expiration of eighteen months he had not had a single fit since the removal of the diseased teeth, though for many weeks previous to the operation he had two or three per day. This is a case of singular interest, inasmuch as there was no complication of maladies, and hence there could be no doubt as to the cause of the disease, seeing that it immediately subsided when the teeth were removed; and it is further useful, in shewing that a sufficient source of local irritation to induce functional derangement may exist without pain being felt in the part where the irritation is applied.

A similar but less marked case occurred shortly afterwards in the person of a policeman. He had fits, which were greatly relieved by the removal of the inferior wisdom tooth, the subject of exostosis.

Vague and shifting pains about the head and face, and sometimes even in the neck and shoulders, are not uncommon consequences of dental exostosis. *Tic douloureux* is also sometimes induced by the like cause, though much less frequently. I have seen tooth after tooth removed for the relief of tic, where no benefit has followed; but, on the other hand, several cases have come to my knowledge where the pain gradually diminished from the time the teeth were extracted, and shortly wholly subsided. I should here remark, that, when pain has become periodical, and has existed for some time, the attacks will not necessarily cease immediately the cause which originally produced them has been removed; on the contrary, they frequently appear for some little time afterwards, but in each successive attack the pain diminishes in intensity, and at last ceases. I have observed that the re-

removal of a tooth which has occasioned sympathetic pain almost always produces a severe paroxysm of the sympathetic pain, and that the paroxysm will bear some relation in duration and intensity to the previous attacks. In accounting for the production of these sympathetic maladies, I must beg you for a moment to bear in mind, that a sympathetic affection in one part is a consequence of organic or functional derangement in some other part of the body, but for which the sympathy would not exist. The most familiar example illustrative of the point is, perhaps, the pain felt in the shoulders when the functions of the liver are deranged. It is not in all cases very easy to see why, when we have diseases in one part, we should also have pain in another, the parts being apparently disconnected, and at some distance from each other; and it is still more difficult to see why the sympathetic pain is not constant in all similar cases of the primary affection. Anatomical examination will, however, enable us to understand how many sympathetic affections may arise from dental disease. The annexed diagram is a faithful representation of a second molar of the lower jaw, with the inferior dental nerve giving a branch to each fang of the tooth. Both the tooth and nerves are the life size, and the distance between the ends of the fangs and the dental nerve accurately represented, the distance being not more than the eighth of an inch.

FIG. 37.



Fig. 37.—Second molar of the lower jaw, with the inferior dental nerve giving fibrils to the tooth, each part being life size.

Now you are well aware that some tissues, and especially bone, are absorbed, and make way for a growing tumor, and that the process is pretty generally unattended with pain. Not so, however, with the larger trunks of nerves: they, instead of being absorbed, are pressed before a growing tumor, become strained, and hence there is pain or suspension of the nerve's function, either in the part itself, or in those parts to which the nerve is ultimately distributed. The trunks of the dental nerves contain many fibres that

are to be distributed to other parts than the teeth.

Bearing, then, these facts in mind, we can at once understand that, if the extremities of the fangs of a tooth be but slightly increased in size, whether by hypertrophy of the cementum or by the growth of any other tumor, the dental nerve may be thereby disturbed, and hence sympathetic pains may be induced in any of those parts with which the nerve is connected. These interesting physiological points will, however, be brought more fully under your notice in other lectures than those on dental surgery.

Original Communications.

CASE OF

ABSCESS IN THE LIVER,

ARISING AS A SEQUEL TO ULCERATION OF THE BOWELS, AND TERMINATING FATAALLY BY SECONDARY ABSCESSES ON THE BRAIN, THE LUNGS, AND THE LIVER.

With Remarks.

By HENRY WILLIAM FULLER,

M.B. and L.M. Cstab.; Medical Registrar at St. George's Hospital.

JAMES P., æt. 25, was admitted into St. George's Hospital on the 29th of April, 1846, under the care of Dr. Wilson. A painter by trade, he had been actively employed at his usual work until five weeks before admission, when he was seized with acute pain on the left side of the abdomen, extending from the right hypochondrium down as far as the cæcum. His bowels were at that time confined, but subsequently became relaxed. He at once applied for medical relief, and leeches, and subsequently fomentations, were applied to the seat of pain, while medicines were administered internally; and so much alleviation of symptoms ensued, that at the expiration of a week or ten days he was sufficiently recovered to resume his ordinary occupation. The pain, however, gradually recurred, rigors supervened, and in the course of a few days he was again obliged to take to his bed, where he remained up to the time of his admission into the hospital.

He had never had colic or palsy, nor had he ever experienced any symptoms indicative of the presence of lead poison in the system.

On admission, his countenance was distressed and anxious; his skin hot; his tongue moist, but rather coated; his pulse but little accelerated; his urine abundant, clear, acid, and not albuminous; his bowels reported to be rather costive. There was a slightly blue line along his gums. He complained of griping pains in the abdomen, referred more particularly to the right side, of occasional vomiting, and of slight rigors, succeeded by a "burning fever." His abdomen was much distended with flatus, and there was strong muscular contraction of the parietes; but superadded to this, there appeared to be a decided fulness and hardness in the right hypochondrium, extending downwards and inwards towards the umbilicus; and of this he also was sensible. The heart's action was regular; the sounds normal; and nothing unusual could be detected in the respiration. He was accordingly put into a warm bath, and an injection of warm water was administered while he was in the bath; and subsequently, while fomentations were applied to the abdomen, a mixture of Inf. Rosæ c. Magnesiae Sulph. et Alum. Sulph. was given internally two or three times a day. By these means the bowels were freely acted on, and the griping pains very greatly relieved, and he felt himself altogether so very much better that, at the expiration of a fortnight, having been up and about for several days, he expressed his intention of leaving the hospital on the following Wednesday. But before that time the pain in the abdomen became more severe, though now confined to the right side; he lost his appetite, became restless at night, felt generally chilly and uncomfortable, and sometimes had distinct rigors, succeeded by a hot, feverish state. As the fulness and hardness still remained in the right hypochondrium, leeches were applied in that situation, and general treatment was from time to time adopted for the alleviation of his constitutional symptoms. This was generally attended with some temporary success: still, on the whole, he lost ground; his appetite was capricious, and generally bad; his nights were restless, and his days were passed in constant uneasiness; a state of hectic remained in spite of all treatment, and he became gradually, but decidedly, thinner and weaker.

On the 28th of May, after more than usual feverish exacerbation, but without any alteration in his other symptoms, an abscess pointed, and soon burst at the umbilicus. The pus which escaped was perfectly healthy, colourless, and quite inodorous; it could not be squeezed out by gentle pressure, but made its escape externally in large quantities when firm pressure was exerted in the right hypochondrium, in the spot where the hardness had previously existed. Not the slightest quantity escaped on the firmest pressure in the right iliac region, or in the left portion of the epigastrium. The feverish symptoms now abated, and the pain at the same time having in great measure subsided, the treatment was directed towards supporting his general health, and alleviating the local symptoms which from time to time presented themselves. With this view quinine and the mineral acids, bark, wine, and a generous diet, were ordered, while poppy fomentations and leeches, and other topical applications, were had recourse to as occasion required. His remaining health and strength, however, gradually failed; hectic recurred from day to day, the discharge from the umbilicus continued very profuse, and he became much emaciated. In this way he went on, without any material alteration in his symptoms, until the 21st of July, when the pus, which had been hitherto healthy in appearance, became all at once deeply tinged with bile. No other difference, however, was observed until the 4th of September, when the discharge from the umbilicus in great measure ceased, and there was an immediate increase in the intensity of the fever, as also of pain in the right hypochondrium. He became very low, and his bowels, which had been hitherto rather costive, began to show a disposition to diarrhoea, and so prominent a symptom did this become, that it was judged necessary, on the 11th, to administer chalk and opium for its relief; while, as the pain in the right hypochondrium was very severe, leeches were again applied in that situation. And once again, so much benefit was obtained, so greatly was the fever subdued, that by the 21st bark and morphia were ordered, and the other medicines omitted. Thus he went on until the 27th, when recurrence of the diar-

rhœa took place; and though the former medicine, together with opiate enemæ, were resorted to for its relief, it was not fairly controlled, and his remaining strength very manifestly began to fail. There was permanent exacerbation of the febrile symptoms; he frequently experienced indistinct rigors; his pulse became greatly and permanently accelerated, and of a fluttering character; and his tongue dry and brown. At the same time his complexion assumed a dusky-yellowish hue; he complained of increased pain in the region of the liver; the anxiety of his countenance became very great, and when left to himself he was affected with some slight muttering delirium. From this state, however, he could be easily roused, and, indeed, when spoken to, always answered calmly and collectedly. But on the 2d of October he passed into a semi-comatose state, and gradually expired on the following day. From first to last there was no pain in the right shoulder; he did not complain of any pain in the head, and there was not the slightest paralysis.

The following is the result of the post-mortem investigation:—*

General appearances.—The body was well formed, but extremely emaciated; there was a small ulcerated opening in the abdominal wall, a little to the right of the umbilicus, communicating with a sinus upwards and outwards towards the liver.

Cranium.—On removing the skull cap, several small elevated patches, of a dingy yellow colour, were seen protruding from the surface of the dura mater. These at first sight had the appearance of tubercular growths from the membrane itself; but, on removal of the dura mater, it was found that this appearance had been produced by this membrane being tightly stretched over pus which had been deposited in small patches in the cavity of the arachnoid. These deposits were very numerous, and varied in size from that of a pea to the size of a common sixpence. They were seen as numerous on the surface of the cerebellum as on the cerebrum. There was a good deal of turbid serum in the subarachnoid cellular tissue. On making a section

of the brain, innumerable little collections of pus were found pervading every part of the cerebrum and cerebellum*; in the cortical and cineritious strictures, in the corpora striata, in the optic thalami, and in the substance of the pons varolii. These deposits, like those on the surface of the brain, were isolated and distinct from each other, and varied in size, though none of them were much larger than a pea. They were quite fluid, some apparently consisting of perfectly purer pus, and some again of pus somewhat tinged with blood. The substance of the brain surrounding these deposits was generally softened to a slight extent. The ventricles contained little fluid, and the brain did not appear more vascular than usual.

Thorax.—The cavity of the right pleura contained a small quantity of fluid tinged with blood, with some few flakes of lymph in it. The cavity was much encroached upon, the diaphragm being pushed upwards by the liver. The pleura covering the lower lobe of the right lung was covered with patches of purulent lymph, and the surface of this portion of the lung was much darker than the upper lobes. The upper lobes were healthy and crepitant, but the lower lobe was highly congested and inflamed, and immediately beneath the pleura on the posterior surface was a small abscess containing about 3j. of pus. The left lung was also much congested at its lower and posterior part, and contained two distinct and dark coloured patches, apparently commencing secondary abscesses. They were very firm in consistence, and the largest contained near its centre a small speck of purulent lymph. The heart was natural.

Abdomen.—The diaphragm was adherent to the greater portion of the upper surface of the right lobe of the liver by old and firm adhesions, as was also the anterior wall of the abdomen to the ascending and a small portion of the transverse colon. These portions of intestine, with the whole of the duodenum, were bound together by a mass of adhesions, and were firmly attached to the margin and lower sur-

* This description of the post-mortem appearances is from the notes recorded by Mr. G. D. Pollock, in the case-book kept in the museum of the hospital.

* There was hardly a cubic inch of the brain which did not contain three or four of these little abscesses.

On admission, his countenance was distressed and anxious; his skin hot; his tongue moist, but rather coated; his pulse but little accelerated; his urine abundant, clear, acid, and not albuminous; his bowels reported to be rather costive. There was a slightly blue line along his gums. He complained of griping pains in the abdomen, referred more particularly to the right side, of occasional vomiting, and of slight rigors, succeeded by a "burning fever." His abdomen was much distended with flatus, and there was strong muscular contraction of the parietes; but superadded to this, there appeared to be a decided fulness and hardness in the right hypochondrium, extending downwards and inwards towards the umbilicus; and of this he also was sensible. The heart's action was regular; the sounds normal; and nothing unusual could be detected in the respiration. He was accordingly put into a warm bath, and an injection of warm water was administered while he was in the bath; and subsequently, while fomentations were applied to the abdomen, a mixture of *Inf. Rosæ c. Magnesie Sulph. et Alum. Sulph.* was given internally two or three times a day. By these means the bowels were freely acted on, and the griping pains very greatly relieved, and he felt himself altogether so very much better that, at the expiration of a fortnight, having been up and about for several days, he expressed his intention of leaving the hospital on the following Wednesday. But before that time the pain in the abdomen became more severe, though now confined to the right side; he lost his appetite, became restless at night, felt generally chilly and uncomfortable, and sometimes had distinct rigors, succeeded by a hot, feverish state. As the fulness and hardness still remained in the right hypochondrium, leeches were applied in that situation, and general treatment was from time to time adopted for the alleviation of his constitutional symptoms. This was generally attended with some temporary success: still, on the whole, he lost ground; his appetite was capricious, and generally bad; his nights were restless, and his days were passed in constant uneasiness; a state of hectic remained in spite of all treatment, and he became gradually, but decidedly, thinner and weaker.

On the 28th of May, after more than usual feverish exacerbation, but without any alteration in his other symptoms, an abscess pointed, and soon burst at the umbilicus. The pus which escaped was perfectly healthy, colourless, and quite inodorous; it could not be squeezed out by gentle pressure, but made its escape externally in large quantities when firm pressure was exerted in the right hypochondrium, in the spot where the hardness had previously existed. Not the slightest quantity escaped on the firmest pressure in the right iliac region, or in the left portion of the epigastrium. The feverish symptoms now abated, and the pain at the same time having in great measure subsided, the treatment was directed towards supporting his general health, and alleviating the local symptoms which from time to time presented themselves. With this view quinine and the mineral acids, bark, wine, and a generous diet, were ordered, while poppy fomentations and leeches, and other topical applications, were had recourse to as occasion required. His remaining health and strength, however, gradually failed; hectic recurred from day to day, the discharge from the umbilicus continued very profuse, and he became much emaciated. In this way he went on, without any material alteration in his symptoms, until the 21st of July, when the pus, which had been hitherto healthy in appearance, became all at once deeply tinged with bile. No other difference, however, was observed until the 4th of September, when the discharge from the umbilicus in great measure ceased, and there was an immediate increase in the intensity of the fever, as also of pain in the right hypochondrium. He became very low, and his bowels, which had been hitherto rather costive, began to show a disposition to diarrhoea, and so prominent a symptom did this become, that it was judged necessary, on the 11th, to administer chalk and opium for its relief; while, as the pain in the right hypochondrium was very severe, leeches were again applied in that situation. And once again, so much benefit was obtained, so greatly was the fever subdued, that by the 21st bark and morphia were ordered, and the other medicines omitted. Thus he went on until the 27th, when recurrence of the diar-

rhœa took place; and though the former medicine, together with opiate enemata, were resorted to for its relief, it was not fairly controlled, and his remaining strength very manifestly began to fail. There was permanent exacerbation of the febrile symptoms; he frequently experienced indistinct rigors; his pulse became greatly and permanently accelerated, and of a fluttering character; and his tongue dry and brown. At the same time his complexion assumed a dusky-yellowish hue; he complained of increased pain in the region of the liver; the anxiety of his countenance became very great, and when left to himself he was affected with some slight muttering delirium. From this state, however, he could be easily roused, and, indeed, when spoken to, always answered calmly and collectedly. But on the 2d of October he passed into a semi-comatose state, and gradually expired on the following day. From first to last there was no pain in the right shoulder; he did not complain of any pain in the head, and there was not the slightest paralysis.

The following is the result of the post-mortem investigation:—

General appearances.—The body was well formed, but extremely emaciated; there was a small ulcerated opening in the abdominal wall, a little to the right of the umbilicus, communicating with a sinus upwards and outwards towards the liver.

Cranium.—On removing the skull cap, several small elevated patches, of a dingy yellow colour, were seen protruding from the surface of the dura mater. These at first sight had the appearance of tubercular growths from the membrane itself; but, on removal of the dura mater, it was found that this appearance had been produced by this membrane being tightly stretched over pus which had been deposited in small patches in the cavity of the arachnoid. These deposits were very numerous, and varied in size from that of a pea to the size of a common sixpence. They were seen as numerous on the surface of the cerebellum as on the cerebrum. There was a good deal of turbid serum in the subarachnoid cellular tissue. On making a section

of the brain, innumerable little collections of pus were found pervading every part of the cerebrum and cerebellum*; in the cortical and cineritious strictures, in the corpora striata, in the optic thalami, and in the substance of the pons varolii. These deposits, like those on the surface of the brain, were isolated and distinct from each other, and varied in size, though none of them were much larger than a pea. They were quite fluid, some apparently consisting of perfectly purer pus, and some again of pus somewhat tinged with blood. The substance of the brain surrounding these deposits was generally softened to a slight extent. The ventricles contained little fluid, and the brain did not appear more vascular than usual.

Thorax.—The cavity of the right pleura contained a small quantity of fluid tinged with blood, with some few flakes of lymph in it. The cavity was much encroached upon, the diaphragm being pushed upwards by the liver. The pleura covering the lower lobe of the right lung was covered with patches of purulent lymph, and the surface of this portion of the lung was much darker than the upper lobes. The upper lobes were healthy and crepitant, but the lower lobe was highly congested and inflamed, and immediately beneath the pleura on the posterior surface was a small abscess containing about 3j. of pus. The left lung was also much congested at its lower and posterior part, and contained two distinct and dark coloured patches, apparently commencing secondary abscesses. They were very firm in consistence, and the largest contained near its centre a small speck of purulent lymph. The heart was natural.

Abdomen.—The diaphragm was adherent to the greater portion of the upper surface of the right lobe of the liver by old and firm adhesions, as was also the anterior wall of the abdomen to the ascending and a small portion of the transverse colon. These portions of intestine, with the whole of the duodenum, were bound together by a mass of adhesions, and were firmly attached to the margin and lower sur-

* This description of the post-mortem appearances is from the notes recorded by Mr. G. D. Pollock, in the case-book kept in the museum of the hospital.

* There was hardly a cubic inch of the brain which did not contain three or four of these little abscesses.

face of the liver. On carefully separating them the external opening which existed in the abdominal wall could be traced through a sinus leading to a small abscess which had formed in the liver near to its lower margin. The contents of this abscess were deeply tinged with bile. The anterior and upper part of the right lobe was very prominent, and was occupied by a very irregularly shaped abscess, about the size of a large orange, containing a quantity of colourless pus. No communication could be traced between this abscess and the external opening. A large portion of the healthy structure of the liver remained, but in this several small abscesses were found, and the general structure of the liver was rather softer than natural. The gall-bladder was small, and contained a thin watery fluid. The greater portion of the mucous membrane of the large intestine was covered with innumerable small ulcerations, which were evidently of some standing, for several of them appeared to be cicatrized. The kidneys and spleen were healthy.

REMARKS.—The whole subject of secondary inflammations has been so fully and so ably expounded by Mr. Arnott,* Dr. Carwell,† M. Cruveilhier‡, and others, and receives such constant illustration in the dead-house attached to every large hospital, that the case above detailed may at first sight be regarded as possessed of no very great interest. But I conceive it to be peculiarly interesting—

Firstly, as illustrating and fully confirming the pathological fact pointed out by Dr. Budd, which is still doubted by some pathologists, of the production of hepatic abscess consequent on ulceration in the alimentary canal.

Secondly, as demonstrating in a remarkable manner the existence of secondary abscesses in the brain.

And, *Thirdly*, as being a striking proof of the extent to which such mischief in the brain may proceed without giving rise to any cerebral symptoms; and affording, therefore, presumptive grounds for the belief that

secondary abscesses occur within the cranium much more frequently than is generally supposed.

In the first place, then, from the clear history of the symptoms and progress of the case, it is manifest that an ulcerated intestine was here the forerunner and primary cause of the subsequent mischief. Some of the capillary veins in contact with the ulcerated surface probably became inflamed, and pus was the result of the phlebitis so produced: the matter thus passing into the portal circulation, and unable to pass through the capillaries of the liver, caused obstruction, irritation, inflammation, and suppuration, and the formation of an abscess as a natural consequence. And whether the matter which gave rise to the formation of hepatic abscess be supposed to have arisen from partial phlebitis, or to have been absorbed from the ulcerated surface, the material fact of the formation of abscess in the liver as a sequel to, and consequence of, ulceration of the bowel, can hardly, I think, admit of question. And possessed as we are of few data for our theory of diseased action, a case which, like the one under consideration, tends fully to establish a supposed pathological fact, must, on other grounds than the rarity of its occurrence, be regarded as possessing no common interest.

In the next place, though there is no *a priori* reason why secondary inflammation should not take place in the brain as well as in other organs and other parts of the body, still the rarity of well-marked instances of its occurrence renders this case extremely interesting. And, moreover, the peculiar form and nature of the lesions invest it with additional interest. For if secondary inflammations in the brain are rare, the formation of well concocted healthy pus as the result of such inflammations is still more rare. In most of the recorded instances of secondary inflammation of the brain some one or two spots in that organ have been discoloured, congested, and softer than natural; or the normal structure has perhaps been broken down, and the centre of this pulpy mass has assumed a somewhat puriform appearance. And though Cruveilhier*,

* Med. Chir. Transactions, vol. xv.

† Illustrations of the Elementary Forms of Disease, chap. viii. on Inflammation.

‡ Anatomie Pathologique.

* F. de Cruveilhier, Anatomie Pathologique.

and Dr. Carswell* have recorded some few instances of supposed secondary abscesses in the brain; though similar examples have been lately reported by Dr. Ormerod,† and others are scattered here and there throughout medical literature, still they are mostly of a very questionable character, and I can find no case, in which, as in the one before us, the evidence of the circulation of matter was complete during life, the existence of secondary abscesses on the brain unequivocal after death, and the abscesses themselves so perfectly formed, so numerous, and so remarkably diffused throughout the cerebral structures.

Lastly, no inconsiderable interest arises from the total absence of cerebral symptoms in connexion with these extensive secondary lesions of the brain. There was hardly a square inch of the brain or cerebellum that did not contain one or more of these abscesses, and certainly not a cubic inch without three or four lesions of a similar nature. And yet there was no headache, but slight wandering, and no paralysis; no head symptoms indeed which are not constantly met with when the blood is poisoned by the circulation of pus. So that on the one hand these purulent collections in the brain must be admitted to have resulted from the passive deposition of matter without any previous or accompanying local inflammation; or the occurrence of inflammatory action, arising round each obstructed globule of pus, and passing rapidly on to suppuration, without giving rise to so-called cerebral symptoms, must, on the other, be looked upon as the cause of these lesions. For my own part, I conceive the latter supposition to be the most rational and consistent with experience; but whatever the interpretation put upon these phenomena, they form a remarkable instance of how extensive mischief may exist within the brain, and that in a comparatively active state, without the production of any symptoms calculated to direct attention to the seat of mischief.

45, Half Moon Street, Piccadilly.

* Dr. Carswell's *Illustrations of the Elementary Forms of Disease*, chap. viii. on Inflammation.

† *Lancet* for December 5th, 1846.

ON THE FATAL EFFECTS OF ETHER VAPOUR

IN A CASE OF REMOVAL OF AN OSTEOSARCOMATOUS TUMOR FROM THE POSTERIOR PART OF THE THIGH.—THE CORONER'S INQUISTION. — GENERAL REMARKS.

By WILLIAM ROBBS,
Member of the Royal College of Surgeons in
London, &c., &c.

WHILE, on the one hand, it excites the pride and pleasure of a professional man to give an account of a successful case of surgery, shewing that, by his knowledge and skilfulness, he has been the instrument of relieving suffering humanity; on the other, nothing is more distressing to his feelings than to have to relate the history of an unsuccessful one, especially when that has terminated fatally to the life of his patient; and that under other than ordinary circumstances. The inhalation of the vapour of ether for the purposes of destroying the sensation of pain during surgical operations, has been used and approved by the highest authorities in the profession. Many successful cases have been published and authenticated, establishing its usefulness beyond all reasonable doubt. Notwithstanding this, I feel the publication of the following fatal case, which I believe to have been caused by its administration, to be a duty which I owe to my professional brethren, the public, and myself. To the profession, by calling its attention to the danger which may arise from the inhalation of ether, and the manner in which, in this instance, it destroyed life. The public, I would put on its guard against the fallacious opinion that sensation and pain can be destroyed without danger to life. And lastly, to myself, by placing the whole facts of the case in as prominent a light as possible; when I state that although a coroner's inquisition was held on the body of the deceased, yet, it will be observed, the evidence which was brought forward was very scanty and unsatisfactory, nor did it embrace any thing beyond a presumptive opinion that the death had been caused by the ether. I will first relate the case; then, give the coroner's inquisition, with the post-mortem appear-

ances; and, finally, offer a few general remarks on the whole.

Ann Parkinson, aged 21 years, a married woman, and the mother of one child: had been the subject of an enlargement on the back part of the left thigh, near the nates, for twelve months past. This increased in size after her confinement, which took place ten months back, became very painful, and obstructed the action of the limb. I was first consulted on the 10th day of January; at this time she was very much out of health, and continued to suckle her infant. I prescribed for her a dose of alterative pills, to be taken every second or third night at bed-time, and an aperient draught each following morning; five grains of iodide of potassium in an ounce of compound mixture of sarsaparilla to be given twice a day; and she was directed to wean her child. Leeches were repeatedly applied to the tumor at intervals of two or three days, in consequence of the severe pain she suffered. Under this treatment her general health recovered, but the enlargement continued the same. The operation of acupuncture was made in the early part of February, and repeated several times; as this produced no beneficial effects, I recommended its removal by the knife. On the 4th day of March, I held a consultation with my friend Dr. Turner, as to the propriety of this procedure; he acquiesced in my opinion, believing the tumor to be one of a sarcomatous character. The patient had previously stated that she had read several accounts of the successful application of ether vapour, and wished to be placed under its influence during the time of operation. As she appeared in very good health, with the exception of the morbid enlargement, and nothing contra-indicating its use, no objection was raised; and I proposed a trial of it before the time of operation. On the evening of Saturday I first used it,* by means of a common inhaler, not having a proper inhaler by me. It took from fifteen to twenty minutes before she was placed under its influence; she first became very hysterical, but, soon afterwards, comatose, and she continued under its effects about two hours. I

saw her on the following morning, when she stated that she had slept during the night, and had experienced no unpleasant sensations from what had been done the evening before. On Monday evening, previous to the day of operation, I repeated the experiment, and put her into a comatose state in about four minutes; but on this occasion she soon recovered. Complete insensibility was not produced during either of the above periods, but she stated that great numbness existed. The patient's husband, as well as herself, was anxious for the operation to be performed with as little delay as possible; I therefore proposed the following day at noon. About one o'clock on Tuesday, the 9th day of March, in the presence of Messrs. Rogers, Priest, and Dibbin, (all qualified surgeons), I proceeded to administer the vapour of ether with an apparatus kindly lent me by Mr. Eaton; the patient having been previously placed on a table suitably prepared for the operation. In about ten minutes its usual effects took place. I then proceeded with the extirpation of the tumor, by commencing an incision midway between the tuberosity of the ischium and the trochanter major, which I continued down the thigh about six inches, dividing the skin and cellular membrane; I next divided the fascia, and then proceeded to separate the muscles with the handle of my scalpel, so as to expose the upper surface of the tumor. During this period she cried out much, complained and writhed in great agony of pain. It was suggested by all present to be advisable to re-administer the vapour, as its proper effects were not produced. I consequently requested Mr. Dibbin and my son to replace the inhaler to the patient's mouth, while I continued my dissection. I found the tumor very adherent to the long head of the biceps flexor cruris, which nearly covered it anteriorly, while posteriorly it rested on the sheath of the great sciatic nerve. It took its origin from the common tendon of the flexor muscles, close to the tuber ischii, and was inserted into the short head of the same muscle just below its origin. I cleanly dissected out the morbid mass without dividing any vessels of any magnitude; and those muscular branches which were necessarily cut I immediately secured,

* I had used it in several cases for minor operations.

and they were tied by my friend Mr. Rogers. The dissection was protracted longer than I expected, from the violent contraction of the muscles, and struggles of the patient. She appeared quite sensible to the pain during the whole of the operation, which was concluded in about twenty-five or thirty minutes, and the patient placed in bed. At this time she appeared very faint, the pulse very rapid and feeble, which induced me, at intervals, to administer small quantities of wine and brandy. She was capable of raising herself to have the soiled bed-gown removed; and while this was being effected, she was asked whether she suffered much from the operation, when she answered, it was very severe. She was then placed in bed on her right side, and the limb from which the tumor had been removed was placed on pillows. At six o'clock in the evening I saw her again, in company with Mr. Priest; she had laid very quiet, did not complain of much suffering, with the exception of an aching in the leg, thigh, and hip; the pulse continued very rapid and feeble, but we considered the time too short for retraction to have taken place; the limb was warm, and not the slightest hæmorrhage from the wound. She was ordered warm slops, and a stimulating anodyne draught at eight o'clock.—10th. At eight o'clock, A.M., I found she had had no sleep during the night, but did not complain of restlessness; for as she had been placed in bed so she continued to lie. On asking her questions, she turned on her back, and requested that her limb might be placed so as to enable her to relieve herself. She stated that there existed *no sensation in either feet or legs*, that they were quite numb; the thigh about the wound ached; and this pain extended to the loins, and along the spine; no urine had been passed since the operation; her skin was much cooler than natural, and there were slight rigors; the pulse was very rapid,—140 in a minute, small, and without much power; the tongue was very dry and yellow; the latter appearance might be attributed to her having taken oranges to alleviate her thirst; her intellects were perfect, as she answered all questions rationally, and without hesitation. She had taken some tea and a little toast. I recom-

mended the nurse to apply hot flannels to the extremities, and bottles of hot water to the feet; the *natural functions* appeared completely interrupted, and all the secretions suspended; I therefore prescribed the following medicines:—℞ Hydr. Chl. gr. iv; P. Opii, gr. i; Pil. Rhei. Co. gr. v; M. ft. Pil. ij. st. sd.; ℞. Spt. Ammon. Ar. ℥ xlv; Spt. Æth. Nitr. ℥ xx; Tr. Senna, Co. f 3ij.; Syrupus, f 3j.; Aq. Pimentæ f 3. ix; M. ft. Haust. horam post pilulas, capiat. The draught was rejected from the stomach immediately, when she took a saline draught, in a state of effervescence, with an excess of four grains of the sesquicarbonate of ammonia; this quieted the stomach, and she retained what she took. 4 o'clock, P.M.—The patient remained in the same state as on previous visit; the extremities were warm, but lost all sensation; there was a slight discharge of liquid hard blood from the dependent part of the wound; the tongue continued dry, and of a yellow colour; a very small quantity of urine had been voided;—to persevere with the remedies, and application of hot flannels and bottles of hot water to the feet.

9 o'clock, P.M.—Had laid very quiet, and dozed a little at intervals; complained of the aching pain of the thigh and back having increased and extended to the other thigh; no sensation in the feet or legs. At this time she was free from rigors; the skin was much warmer, and the pulse continued very rapid, but certainly beat with more strength; the tongue was moist round the edges, but very dry in the centre; the hands and forehead were slightly moistened with perspiration. I ordered a little hot gruel, which she took and retained on her stomach; there was no tossing about or restlessness; she appeared very quiet and sensible. I was hastily summoned at five o'clock on the following morning by her husband, but she expired without a struggle before his return. From what I could learn from the nurse, she had had very short sleeps at intervals during the night, and lay very still; the nurse gave her a little gruel about midnight, which she took without difficulty; her attention was aroused by observing that the patient's breathing became more heavy and shorter; it was this that induced her to send for me, as the patient was

quite sensible, and did not complain of being worse.

*Coroner's Inquisition.**—On Saturday, the 15th day of March, Mr. Kewney, one of the coroners of this division of Lincolnshire, empaneled a jury to inquire the cause of the death of the deceased Ann Parkinson. In his charge, he said he had felt it his duty to call them together, in consequence of the sudden death of the deceased after a surgical operation during which the vapour of ether had been administered; and if, on inquiry, they found that the operation had not been skilfully performed, or that the vapour of ether had been rashly and recklessly administered in such quantities as to cause her death, the rules laid down for its use not having been observed, then the parties so using it would be guilty of manslaughter; that there existed in law no difference between men duly qualified to practise their profession, and others not so qualified. The address was very elaborate. After the jury had viewed the body, the inquest was adjourned to Monday evening, at six o'clock.

At the adjourned inquest, the coroner proposed to take the evidence of Mr. Leake, a relative of the deceased, and then, that the gentlemen present at the operation might make their statement, so as to enable the witnesses, who had made the post-mortem examination to judge more correctly the cause of death, and the correctness of the treatment. To this Mr. Robbs objected, on the grounds that as the gentlemen present during the operation were held in the light of a criminal party, and what they had to state was not to be received as evidence, that it would be more correct for the coroner to close his inquiry before they (the operator and his friends present at the operation) made any statement; this was acceded to, when the following witness was called. Ann Parkinson, a relative of the deceased, being sworn, stated all the facts as contained in the case: her examination was a very long one, but nothing contrary to what has been previously stated was elicited.

Mr. W. Eaton, surgeon, being sworn,

* We published a report of this inquest in our last number, at page 563. As Mr. Robbs' paper contains a more accurate account of the proceedings, we here reprint it, in order to preserve the continuity of the narrative.—Ed. Gaz.

stated, that, on Saturday evening, the 13th inst., he proceeded with Mr. Shipman and others to make an examination of the body of the deceased. Externally he found an incised wound on the left thigh, about six or seven inches long, secured by sutures, the remains of a recent operation. No large blood-vessels or nerves had been wounded. There were four ligatures, which appeared to have been applied on small arterial branches. He observed no appearance of the wound to account for her speedy death. Witness found nothing unnatural in the appearance of the chest. The lungs were pervious throughout, were healthy, but congested posteriorly, which was caused from the position of the body at the time of death. The heart was healthy in structure, but more flabby, and contained less blood than usual. The stomach was healthy: it contained a small quantity of dark-coloured fluid, like gruel, which no doubt it was. The liver was paler than usual, and softer in texture. The spleen was healthy, as also the intestines. The brain was healthy; the membranes covering the anterior lobes were rather congested. There was no effusion in the ventricles. The blood was generally in a liquid state. He considered the cause of death was from the ether that had been inhaled. From the appearance of the wound he should say the operation had been performed as well as it was possible for it to have been done: there was no adhesion of the wound, or attempt at reparation. Coroner.—When a person is subjected to ether, would the shock to the nervous system be less felt than without it; say in a nervous body? Witness.—No; I think the deadening the sensibility would increase the danger, as the patient would have two shocks to recover from. There was no cause to indicate the congestion of the brain but the presence of ether.* This might also produce the liquid state of the blood. Other agents might produce the same effect; as electricity, prussic acid, &c. The shock from the operation was not simply the cause of death, as the seat of the disease was not essential to life. The tumor was produced: it was the size of a sheep's heart, and of an osteo-sarcomatous

* There was no smell or presence of ether.

character. He believed it to be of a malignant nature, and might ultimately cause death. The system used had received the sanction of the highest authorities, and had been used by witness in a case where the patient suffered very much, but was now going on well.

Mr. Shipman, surgeon, of Grantham, was next called and sworn. He said he entirely agreed with the evidence given by the former witness in every respect.

This closed the inquiry, when the Coroner (*after a proper warning not to commit themselves*) said he should be happy to hear any statement from the gentlemen present at the operation: when Mr. Robbs stated that the use of the inhalation of the vapour of ether had not originated with him; that it had been used by Liston, Key, Morgan, Lawrence, and others, very successfully; that in the present instance great precaution had been taken. The Coroner here said that he had in his hand an account of a case having occurred to Mr. Nunn, of the Colchester Hospital; and, as it bore on the one in question, he would read the whole from the MEDICAL GAZETTE to the jury, and then give his opinion on the evidence before them. The jury then returned the following verdict:—"That the deceased's death was caused by the inhalation of ether to render her insensible of pain during the operation of removing the tumor, and that no blame was attached to the medical gentlemen, as the operation had been performed in a skilful manner."

REMARKS.—At the time I performed this operation I had not seen Mr. Nunn's unsuccessful case at the Colchester Hospital, in consequence of my MEDICAL GAZETTE not coming to hand till the Friday after its publication. The symptoms observed in my patient were very analogous to those described by him; indeed, he has most correctly and admirably related the effects of the vapour of ether on my patient. The operation itself was of a very simple character, involving neither difficulty or danger under ordinary circumstances. The exact period of time during which the ether was administered was not noted; the effects, and not the time or quantity, were closely and carefully watched. The same re-

mark is applicable as to the duration of the operation. We were in the patient's bed-room fifty-five minutes; but every one knows that there are many things to arrange, and that the dressing of the wound, changing the patient's dress, washing, inhalation, &c., take up no inconsiderable part of an hour. It was performed with the care and rapidity consistent with the patient's safety. The inhalation was not continued during the whole of the time, nor was it reapplied till the cries and struggles of the patient became so great as to be under no control, and then both Mr. Dibben and my son state that it was very imperfect, and only at intervals, the position of the patient being very unfavourable. I had previously formed an idea, from what I had observed, that an over and dangerous dose of the vapour would be made visible by stupor, insensibility, unconsciousness, stertorous breathing, and general congestion, producing apoplexy. I was quite unprepared for that perfect state of paralysis of the brain and nervous system which it appears in this case to have induced. From what I had read of its effects, I concluded they were transitory, and if the danger was not immediate, there would be nothing afterwards to fear. It is true the opinion I first formed of its use was unfavourable, as I could not understand that anything would produce a cessation of the vital functions without danger to life; but, after having used it in several minor cases, I found that a partial suspension of the functions of the brain and nervous system was produced without much inconvenience, and that this effect soon passed off. It will be observed, from the history of the case I have related, that the natural functions of the body, that is to say, the secreting organs, ceased their functions altogether. On the evening visit, on the day after the operation, there was an attempt at reaction, which was made apparent from the slight moisture on the edges of the tongue, hands, and forehead, with a slight increase in the power of the pulse. However, these symptoms were of very short duration, when the patient rapidly sank, being sensible to the last. The use of this new therapeutic remedy may not be altogether without its benefits, but, so far as I am concerned, I will not willingly use it.

again, and, if in consultation, I will do all I can to dissuade any one else.

One word as to the inquisition, which will, I think, be thought rather a novel proceeding. I am sorry to say, and I speak from authority, it originated in a bad and vindictive feeling; how far it might be necessary, I leave the public and profession to judge. The attempt of convicting by wholesale four qualified surgeons of an act of manslaughter, from the circumstances of a mischance from a surgical operation, is something new in the annals of the profession.

Grantham, March 19, 1847.

INCREASE OF FEVER IN GLASGOW.

WE regret to learn that the ravages of fever continue unabated, and that the disease is on the increase. The returns made by the district surgeons to the managers of the Infirmary up to Thursday last show that on that day the *maximum* of cases treated in the hospital corresponded to the number of cases treated in the houses of the patients. Under these circumstances, the managers of the Infirmary have been unremitting in their exertions to find adequate accommodation, as they have been prevented from receiving the daily accumulating cases by absolute want of room.

GALVANISM IN LABOUR.

DR. SIMPSON expresses the opinion that galvanism does not exert any influence either in originating or in increasing uterine action. The experiments which led him to this conclusion were made on six women, in whom he carefully noticed the duration of the labour-pains, and of the intervals between their recurrence. He next repeated his observations with all the apparatus for galvanism prepared, but without establishing the contact; he then established contact, and lastly, renewed his observations after removal of the wires. From these experiments he infers that when uterine action has seemed to be excited by means of galvanism, this has either been a mere coincidence, or has resulted from the impression made on the mind, or been produced by the mechanical irritation of the os uteri, or of the surface of the abdomen by the conductors. These observations seem to have been made with great care, but can hardly, as yet, be allowed to outweigh the results made by Reil and Carus in their experiments upon animals, and the recent evidence in favour of the reality of the influence of galvanism afforded by some of the cases which Dr. Radford has recorded.—*Dr. West's Report on Midwifery, 1845-46.*

MEDICAL GAZETTE.

FRIDAY, APRIL 2, 1847.

IN our last article we made some remarks on the provisions of the new French *Projet de Loi*, in reference to the suppression of the illegal practice of medicine. By this measure the proof is rendered easy, the process speedy, and the least amount of punishment which can be inflicted is imprisonment for *six months*. This may appear to be exceedingly severe, yet, after all, it falls far short of the punishment awarded, in this country, to those who act as attorneys without qualification or license. We lately recorded one instance in which a legal offender of this class was sentenced to seven years' transportation; although the extent of pecuniary damage inflicted by his illegal practice was, comparatively speaking, small,—not exceeding the fee of a second-rate quack! One of our French contemporaries complains that this penal article will fail from its severity, and that the punishment for the first offence should be reduced. We agree with the writer in thinking that a shorter period of imprisonment, provided it were a fixed term, would be equally effectual in checking the illegal practice of medicine. Experience has, however, fully established, with regard to offences in general, that more confirmed rogues are made than reformed by a lenient remission of the sentence in the first instance. Thus a certain period of imprisonment should be assigned by law, below which, a magistrate should have no power to reduce the punishment. For reasons which must be apparent to all, no legislation for the suppression of illegal practice is likely to be effectual if the sentence of imprisonment can be commuted for money. This option is not

given in this country to a sham attorney, and we cannot see why it should be extended to a sham medical practitioner.

In comparing the French with the fourth English Bill, it is impossible to avoid being struck at one remarkable circumstance, *i. e.* that by the thirty-third clause in the latter, in reference to "false pretences of qualification," we had, in the year 1845, only reached the point from which the French started in the year 1803! Thus the English Medical Reform Bill of 1845 was based on a principle which our French neighbours, after a fair trial of forty-two years, had found to fail completely in its object, *i. e.* in the suppression of unqualified and unlicensed practitioners. The old French law proceeded entirely by *finer*, which were levied on convicted offenders; not, as in England for improving the revenues of the Crown, but for the benefit of the Parisian hospitals and infirmaries; and for a second offence, imprisonment not exceeding six months was inflicted in addition to a double fine. There was a sliding scale of fines, according to whether the offender represented himself as doctor of medicine, *officier de santé*, or midwife.

This law, it is now admitted by an experienced French writer, was rendered perfectly inoperative by the fact that no penalty was attached to the illegal practice of medicine, unless the accused assumed at the same time a title indicating that he was a licensed member of the profession. There was so much difficulty in producing proof of this assumption of title, and it was found to be so little necessary for the profitable practice of medicine by unqualified persons, that convictions under this law could rarely or ever be obtained; and many of the more shameless of the class of quacks actually defied the law, and courted

the notoriety arising from a public charge against them. While it served as an excellent mode of advertising their nostrums, it was almost sure to end in an acquittal, and thus to place them on a better footing with the more ignorant portion of the public.

Our readers will remember that while the English bills of 1845 were under discussion, it was contended in this and other medical journals that the offence, as it affected the public, did not so much consist in the assumption of a title as in the actual practice of medicine; yet the clause in the improved bill went no further than punishing, by tedious and expensive legal proceedings, those who assumed a medical title. One of the clauses, it is true, went so far as to threaten persons who practised as "apothecaries" without having been registered; but any one acquainted with the working of the Apothecaries' Act must know that in a practical point of view this clause, had the bill passed into a law, would have remained a dead letter.

It is not a little remarkable that they who have attempted the reform of the medical profession in England, have not endeavoured to procure some knowledge of medical legislation in other countries. Had this been done, we should not have witnessed the absurd attempt to enact as a reformation of the law in England, provisions which had been tried for nearly half a century in a neighbouring country, and which had so completely failed that the foreign minister had found it absolutely necessary, not only to abolish them, but to introduce a measure of reform on entirely different principles. Such, however, was our position in 1845. While it furnishes a good lesson to medical reformers, it affords clear proof of the injury which may be done by crude and premature legislation.

There are some eminent members of our profession for whose opinions we have a great respect, who think that any legislation directed to the suppression of illegal practice is futile, because quackery will always exist in spite of it. We should be sorry, however, to limit the utility of legislation only to those cases in which an offence could be effectually and entirely suppressed by an Act of Parliament. The best devised human laws would fail if this test were applied to them. All that we can expect from legislation is to diminish the frequency of this offence; and, to a certain extent, to protect those whose ignorance prevents them from protecting themselves from the artful and designing quack. The legislature is careful to afford this protection if money be obtained by false pretences, except when an individual pretends to cure a disease of which he knows nothing: this is not considered in a legal view a false pretence; the impostor is then privileged not only to take with impunity the money of the poor man, but to ruin his health! No law can reach him. We contend that such a state of things should not be allowed to continue without at least some legislative attempt being made to check the evil: that there will still be quacks in spite of legislation, may be conceded, but this is, in our view, no reasonable argument against it. Further, while we admit that no medical reform bill can prevent the existence of quackery amongst qualified medical practitioners, we do not see that this is any reason for tolerating it out of the profession. We should rather strive to discourage it among legally qualified men by improving the education and status of practitioners, and trusting to time for the development of those feelings under which a professional man will consider it a disgrace to gain his bread by imitating the practices of advertising

quacks. We feel, however, that the course taken by the French Government renders it unnecessary for us to argue the question further. The French Minister, and through him the medical profession of France, have recognised the necessity of checking by the most speedy and effectual plan the illegal practice of medicine. The article which has been proposed for this purpose* is not, like our own, a mere pretence, but a *bonâ fide* attempt to protect the public and profession.

This article is also well calculated to put down a practice which we believe prevails extensively in this country; i. e. of persons who have a bare legal right to exercise the art of medicine assuming the title of Doctor of Medicine, on the strength of a parchment degree purchased of the agent of some foreign University. Under the 33d clause of the fourth Medical Reform Bill, a respectable looking impostor of this class might escape by the payment of a morning's fees; but under the provision in the French bill, he would be consigned to a prison. There cannot be much difference of opinion as to which of these two provisions is likely to be the more effectual in checking the offence; and we trust that the penal clauses of the English measure, whether in relation to practice or assumption of title, will be modelled after those introduced by the French Minister. It would be better to have no law than one which was unfitted for its object; and we are satisfied that without a power of summary procedure and of punishing convicted offenders by imprisonment, any clause to prevent the practice of medicine by unqualified persons, will be nothing less than "a mockery, a delusion, and a snare."

* Page 554.

Reviews.

Guy's Hospital Reports. Second Series. Edited by G. H. BARLOW, M.D., EDWARD COCK, EDMUND L. BIRKETT, M.B., and ALFRED POLAND. Vol. iv. 1846.

[Continued from page 26.]

Report of the Clinical Society, from January, 1845, to March, 1846. By EDWARD BENTLEY, M.D., and ALFRED POLAND. Surgical Division, by Alfred Poland.

WE have already, on various occasions, directed the attention of the profession to the labours of the Clinical Society of Guy's Hospital, the arrangements of which are calculated to enable every student attending the school to become practically acquainted with disease while occupied in recording the cases of stated numbers of medical and surgical patients. The report before us bears ample testimony to the continued activity and success with which this excellent system is pursued by the students. With regard to the surgical report, Mr. Poland states that "Part I. contains the abstract of cases reported by the Society from January to September, 1845, and comprises 645 cases. Part II. includes a return of every case, whether terminating in the discharge or death of the patients, from October, 1845, to March, 1846, comprising an account of every surgical case treated in the hospital during that period, and contains, in these six months, 1038 cases."

The various kinds of injury and disease described in these cases are carefully arranged in elaborate statistical tables, on a plan formed by Dr. Edmund Birkett, the Vice-president of the Society; and, appended to these, are well-condensed notices of the leading features of the more prominent cases. A few extracts will best convey to our readers an idea of the character of the report:—

"Of the three cases of concussion of the spine,—in the first the blow was low down, and accompanied with only a temporary loss of sensation of the right lower extremity and right gluteal region; in the second there was partial loss of motion of both legs; and in the third, temporary paralysis of the adductor muscles of the thigh. All

were treated by local depletion and purgatives." And all are placed in the table under the head of "cured."

The following cases of traumatic tetanus are interesting, from the fact that inflammation of the principal nerves of the injured part was discovered in both. The failure of amputation in the first case, and the suddenness with which death occurred in the second, are also important points. It is to be regretted that the precise condition of the inflamed nerves has not been more explicitly described.

"In the first case of tetanus the person was aged thirty-seven. The disease, on admission, was of two days' duration, and had supervened upon a crushed condition of the extremity of the fore-finger, produced eight days previously by a squeeze between two pieces of iron. He had trismus, opisthotonos, difficult deglutition, abhorrence of fluids, great pain; spasms every quarter of an hour; breathing, thirty per minute. He was quite sensible. The finger was amputated, aconitine [ointment?] rubbed along the spine and about the region of the diaphragm, and large doses of fluid opium were given internally. No effect was produced, and he became gradually exhausted; the spasms lessened in frequency, and, after one or two short gasps, he died twenty-four hours and a half after admission. The autopsy displayed congestion of the vessels of the pia-mater, congestion of the brain, medulla oblongata, and spinal chord. In the amputated finger there was inflammation of both nerves to the extent of an inch upwards: one nerve was contused; the other nearly cut through.

"The second case was in a child. The disease was of five days' duration, and was consequent upon a compound fracture of the arm which had occurred two days previously. The paroxysms were very severe, and continued with scarcely any intermission, and the child died in ten minutes from suffocation. No autopsy was allowed, but the wound was examined, and inflammation of the median and ulnar nerves was observed."

We believe that the following extraordinary case is not quite without parallel; a very similar instance was published several years ago:—

"The case of acute phlebitis occurred in a young man, aged twenty-five, of bad health and constitution, who had received a kick on the arm, to which leeches had been applied. Phlebitis ensued, with severe constitutional symptoms. A livid appearance of the skin in the neighbourhood of the blow ensued. An incision was made, and a dead leech

found embedded. No wound except a leech-bite could be observed externally to account for its entrance. The man, however, died exhausted, and no autopsy was allowed."

The following case of ovarian disease presents several remarkable features:—

"The ovarian disease was of three years' standing, and the patient had been tapped six months before admission, when three quarts of fluid were drawn off. It then gradually increased, and attained the size of thirty-seven inches, measured round the body at the umbilicus. She complained of a good deal of pain; the catamenia continued regular. On admission, diuretics were first had recourse to, and with benefit; but at the end of six months, the tumor beginning to increase, she was tapped, and two pounces of grumous blood, like the contents of a hæmatocele, were drawn off. Symptoms of peritonitis supervened. An abscess formed in the abdominal parietes, which was opened, and afterwards assumed an unhealthy action; large pieces of slough came through the opening, and on one occasion a piece about two feet long was removed, and appeared to be nearly the whole of the ovarian cyst. The woman became exceedingly low, but, under tonics and stimulants, recovered, and left the hospital about a year afterwards, perfectly cured. In the course of the following twelvemonth, while in the country, she was seized with bronchitis and symptoms of phthisis, and died. Unfortunately an inspection was refused."

Allusion is made to a case of unilateral fracture of the tibia and fibula of nine months' duration: the fracture had been compound. Starch bandage was applied, and iodine given internally: the union became complete.

The following extract presents, in rather strong contrast, the results of various methods which have been recommended for the cure of hydrocele:—

"There were twelve cases of hydrocele; the ages varied from sixteen to seventy-one, and the duration of the disease from four months to twenty years. Ten were cured: seven by paracentesis and injection: in three instances with port wine and water; and in four with Tinct. Iodinii Co. and water. Two were cured by tapping alone, absolute rest being insisted on. The age in one case was 68; both sides were affected, and on one side the disease was complicated with hernia: one in a person aged 71, where the trocar only was introduced into the sac, and the fluid compressed into the surrounding cellular tissue; sloughing of the scrotum ensued, but a cure was ultimately effected.

One was unrelieved, the disease being complicated with phthisis. The remaining case was tapped, and injected with port wine and water, but to no effect. The Tinct. Iodinii Co., with water, was then used, but suppuration following, the sac was laid open by the knife, and soon filled up by granulation. Severe pneumonia, however, supervened, and the patient died."

The medical report, by Dr. Bentley, embraces a period of fifteen months, and contains the results, with other points of interest, of 651 cases.

The following extract from this report contains an abstract of two very interesting and by no means common lesions:—

We have a case of tumor of the larynx, the patient, a man of temperate habits, 64 years of age. For some months he had been very hoarse. Eight weeks prior to his admission he had a sudden fit of coughing, with intense dyspnoea. These paroxysms subsequently returned at intervals. Calomel had been freely administered internally; counter-irritation externally, by means of croton oil and tartar emetic. His principal symptoms were urgent dyspnoea and inability to swallow fluids. Death took place three days after admission. The autopsy revealed a tumor, of a cancerous kind, about the size of a hen's egg, growing from the thyroid cartilage, and pressing upwards and forwards against the pharynx, allowing a very small opening for the passage of air into the lungs. The heart and lungs were healthy.

"Under pleuritis and pneumonia, we have first the case of a man, thirty-five years of age, of temperate habits, where, in addition to the pleuritis, there was considerable oedema of the left side of the face and neck, a sense of constriction about the chest, and excessive dyspnoea. There was found, after death, a large quantity of opaque turbid serum in the right pleural cavity; the left lung was bound down by old pleuritic adhesions; the pericardium contained fourteen ounces of a thick purple fluid; the heart was covered by a granular vascular layer, supposed to be of a fungoid character; the left vena innominata had slight recent obstructions; in the right jugular vein there was a coagulum, solid, but recent; vena azygos free. In the superior cava was a pedunculated growth, about two inches in length; there was also a remarkable appearance upon the surface of the large intestines, on which were chalky-looking bodies of the size of mustard seeds or less, presenting a beautiful appearance, and found in the course of the lacteals; on examination they were found to contain chyle."

We have perused the clinical reports

with great interest; they are highly creditable to Mr. Poland and Dr. Bentley, as well as to the pupils of the hospital generally.

Dr. Lever's "*Clinical Report of Cases admitted into Petersham Ward from June, 1845, to June, 1846,*" contains many valuable histories of disease, but the publication of cases in a detached form, and merely in an alphabetical order, is perhaps not the most eligible mode of presenting such important records to the profession. These details will however well repay an attentive perusal. The following extracts will speak for themselves.

"*Fistula, Urethro-Vaginal.*—The subject of this distressing malady was an unmarried woman, who at the age of twenty-two, (ten years since,) was delivered of a still born male child, after (to use her own words) being in labour for three weeks, when at length delivery was completed by instruments. A serious and protracted illness followed her delivery, and, on recovery, she found herself totally unable to retain her urine. The symptoms continued up to the period of her admission, although the incontinence of urine was influenced by position, for while recumbent she could hold her water for some time, but if she assumed the erect posture it immediately gushed forth. Her health was tolerably good, although not very robust; vaginal examination found the uterus bound to the posterior and left side of the vagina by a firm band or cicatrix; the viscus was healthy, and free from tenderness. A catheter passed into the bladder abstracted 3iv. of pale limpid urine. The first and second examinations, which were made by passing the finger along the roof of the vagina while the catheter was in the urethra, and by using the bivalved speculum with the patient on her knees and elbows, failed to detect the fistulous opening. Subsequently, the clinical clerk, Mr Ramskill, detected a small opening in the roof of the vagina, about half an inch on the right side of the urethra; through this he passed a probe to the neck of the bladder, where it came in contact with the catheter passed through the urethra. An elastic catheter was ordered to be kept constantly in the bladder, and the nitrate of silver to be passed along the track of the sinus. This was repeated several times, when all the urine flowed by the catheter, and for three days after the removal of the instrument, she passed urine naturally, but on the fourth, dribbling returned. The catheter was again introduced, and the argenti nitras applied by means of a thin silver probe coated with the caustic by fusion. This was repeated every

third morning, and although the size of the fistula diminished, and while the catheter remained in the bladder all the urine passed through the tube, yet, when this was withdrawn, the dribbling returned. It was now deemed prudent to apply the actual cautery; this caused much pain, and was followed by some faintness. No examination was made until five days had elapsed, when the opening was found to be smaller and more contracted, and the quantity of urine flowing through it was reduced in quantity. The ferrum candens was applied a second time, and with increased benefit, and although the opening had not entirely closed when she left the hospital, yet it was small: a report sent me a few weeks after informed me that all the urine at that time flowed through the natural channel, and she had been able to take the situation of house-keeper."

The following is a description of a pessary, invented by Mr. Lund, which appears likely to prove useful in many cases of displacement and prolapsus of the uterus, and which seems to be free from most of the faults which render the larger proportion of the instruments that have been contrived for this purpose either useless or positively injurious.

"The elastic truss pessary, for prolapsus uteri, which has been made for me by Messrs. Weiss and Son, consists of a spiral steel spring, slightly curved to adapt it to the form of the vagina, enclosed in a case of india rubber to protect it from the discharges. The helix which it forms is not cylindrical in its entire length, but only for one third, where it has a diameter of one inch, the remaining two thirds being considerably flattened, so as to give it an elliptical outline, the vertical and transverse diameters of which are respectively one half and one quarter of an inch; it measures along its convex border from three and a half to four inches; the wire of which it is made is about one-fifteenth of an inch in thickness, and the space between the turns about three-fifteenths; the cylindrical portion of the spring passes gradually into the elliptical, so that there is no perceptible shoulder or projection; the spring constitutes the frame-work of the instrument; it is covered with flannel to obliterate the interspaces between the wire, and then with sheet caoutchouc, which being fitted very accurately, prevents any moisture from entering into the interior; this elastic covering is passed over the larger end, where it forms a kind of cushion, while the smaller end is closed with a piece of wood, turned into the shape of a button, which projects

beyond it. The pessary is easily kept in position by means of a band which is made to pass round the waist, just over the crests of the ilia, and a broad thin pad, in which there is a button-hole to receive the button just described; to the corner of this pad four tapes are attached, by which it is fastened to the band after the pessary has been introduced into the vagina. For this purpose, two of the tapes, after spreading right and left on the perineum, are carried behind the nates through the loops appended to the band, and brought round in front, where they are tied to any convenient length; the front tapes are next tied, one being placed behind, and the other in front of the band. In this manner the pad is made to press upon the external parts, which affords a comfortable sensation of support to the patient; and, if the length of the pessary has been suitably chosen, the os uteri will be retained at its normal distance from the orifice of the vagina.

The following are some of the advantages which I consider the elastic truss pessary will be found to possess over the more common form at present in use. The source of support being situated external to the vagina and perineum, these parts are not injuriously distended in counteracting the descent of the uterus. From the facility with which it can be removed and replaced, the patient is enabled to keep it free from those unpleasant discharges which are so abundant in these affections of the womb; while lastly, from its moderate price, it is within the reach of the poorest person;—a matter of no slight importance, if it be recollected how frequently these displacements of the uterus occur in women who can ill afford to pay for more expensive instruments."

[To be continued.]

On the Sanitary Condition of Newcastle-on-Tyne: a Lecture. By GEORGE ROBINSON, M.D. &c. Pamphlet, 8vo. pp. 58. Newcastle. 1847.

Is there should be a failure in respect to sanitary legislation, it will not arise from any want of exertion among members of the medical profession. In nearly all large towns the sanitary movement has originated with medical practitioners, and through evil and good report, they have persisted in forcing upon the attention of the legislature the necessity of making sweeping reforms in the drainage, ventilation, and the supply of water to towns. Dr. Robinson has here taken a medical view of his subject, but he has treated

it in a popular and intelligible manner. There are no hard Greek names for his fellow-townsmen to conquer. Facts are placed before them in plain language; and admitting these, the inference is irresistible, that something ought to be done forthwith by Government. We do not consider it necessary to make any quotations from the pamphlet, but we merely call attention to it, as furnishing an additional proof that, from one end of the country to the other, sanitary reform finds its most powerful advocates among members of the medical profession.

Proceedings of Societies.

MANCHESTER PATHOLOGICAL SOCIETY.

March 4th, 1847.

Dilatation of the Air-Tubes; Cyrrhosis of the Lung.

Dr. WATTS presented the left lung of a woman in which all the air-tubes to the third and fourth subdivisions were greatly dilated, and the minutest air-tubes and air-cells wholly obliterated.

The lung was one-third the ordinary volume, non-crepitant, indurated, in colour dark bluish grey, and coated over with a very thin layer of old false membrane, which had caused adhesion of the pleural sac in every part. The air-tubes generally were dilated like the fingers of a glove, the terminal extremities being distended into orbicular cavities, varying from the size of a pea to the volume of a hazel-nut. At the summit of the lung, where it adhered inseparably to the thorax, many of the terminal bulbs communicated so intimately as to give very much the appearance of tuberculous anfractuositities. The mucous membrane of the dilated tubes was greatly hypertrophied, and intensely red. The right lung was enormously hypertrophied, and extended so far across the mediastinal space as to occupy more than one-third of the left cavity of the chest. The right pleural sac contained much serum, and abscesses of recent lymph adhered to the surface of the lung. The right side of the chest was somewhat larger than the left. There was no other morbid appearance in the body.

The patient, Mary Leech, aged 22 years, had been subject to a slight cough since childhood, and experienced several acute attacks of pulmonary disease during the last six years, and was ordinarily shorter-breathed

than most healthy people. She came under treatment in the middle of January last, about six weeks after the birth of her first child: she was then speechless, perfectly insensible, much emaciated, and passed her excrements involuntarily in bed. The left side of the chest, besides being somewhat contracted as compared with the right, was generally dull on percussion, more especially at the back and side, where no respiratory murmur was audible, but merely pure bronchial respiration and crepitus. The respiration was perfect in the right lung, and the whole of the right side of the chest was clear on percussion. The bowels were constipated, and the constipation had not been preceded by diarrhoea. The woman's attendants being unacquainted with the previous history of the pulmonary affection, the case, judging from the physical signs and appearances, was regarded as tubercular disease of the lung, with secondary effusion on the brain. A grain of calomel was administered every three hours, a blister applied to the neck, and the raw surface dressed with mercurial ointment. The cerebral symptoms gradually abated in the course of the same week; the calomel was taken for several weeks longer without producing ptyalism, or occasioning looseness of the bowels; and with the restoration of the mental faculties, the woman gained in strength, and improved remarkably in appearance. The early history of the case, which was now first obtained, together with the extraordinary tolerance of the mercury, and the indolence of the bowels, made the previous diagnosis unsatisfactory, and prepared for the discovery of other disease more in accordance with the morbid evidences.

Dr. Watts likewise exhibited another specimen of the same lesion affecting merely the superior fifth of the upper lobe of the left lung. The patient, Frances Prince, aged 55 years, a person of deeply cachectical appearance, after having been affected with chronic cough, with winter exacerbations, for several years, came under treatment Jan. 25th, for a severe attack of pulmonary catarrh, attended with much congestion of the lungs, and dyspnoea. Whilst still confined to her bed, she was imprudently removed in frosty weather to another house, which was colder, and not well aired: the dyspnoea forthwith increased, and she sank Feb. 14th. After death, both lungs were found congested with blood, drenched with serum, and emphysematous, and the summit of the left lung presented the appearances above described, besides being at this part firmly adherent to the chest. All other organs were healthy.

Dr. Watts observed, although it was possible, from the history and signs, and the progress of the case, to have made the diag-

nosis with a tolerable degree of certainty in the instance of Mary Leech, this could not have been done at all satisfactorily in that of Frances Prince, so far as the dilatation of the air tubes is regarded; the presence of emphysema in a high degree,—the small amount of the lung affected with the dilatation, this lesion being situate at the summit of the lung,—the slight preponderance of the dilatation of the air tubes over the induration of the pulmonary substance,—all conspiring to prevent any satisfactory result from percussion, whilst the emphysema and catarrh obscured the other auscultatory signs,—must have rendered the detection of this peculiar lesion next to an impossibility. Even had the patient come under treatment in summer, when the catarrh was at its minimum, it would have still been a nice point of diagnosis, owing to the amount of emphysema, coupled with the profoundly cachectical appearance of the woman, to have distinguished the dilatation from a cavity resulting from very limited tubercular disease.

*Suppressed Menstruation — Apoplexy.—
Congestion of Cerebral Veins and Sinuses.*

Mr. Whitehead presented the membranes of the brain, with the uterus and its appendages, of a young woman, 19 years of age, who died of apoplexy, caused by congestion of the cerebral sinuses, resulting from suppressed menstruation. The brain, including the cerebellum and medulla oblongata, was perfectly healthy: it was not more than usually vascular, and there was no effusion whatever, either of blood or serum, into its substance, or within its chambers, nor into part of the cranial cavity. Not a trace of meningeal inflammation was to be seen. All the large sinuses, however, and the veins which terminate in them, were distended to their utmost limit. The two lateral, the torcular Herophili, the straight, and the longitudinal sinuses, were gorged with black firmly-coagulated blood, and the veins terminating in the superior longitudinal sinus were similarly occupied, lying in the interconvolitional sulciform tortuous earthworms, equal in their size to the calibre of an ordinary writing quill. The thoracic and abdominal organs were all healthy.

The os uteri was a third of an inch in length, and completely closed; the labia were of the ordinary dimensions, and free from congestion. The body of the uterus was turgid: its right half, both anteriorly and posteriorly, was deeply injected with blood, offering a striking contrast with the opposite half of the organ, which was pale, with the exception of here and there a small spot of vascular turgescence. The cavity of the uterus was more dilated than it is usually observed to be when in a perfectly quiescent

state: its mucous lining presented a most beautiful arrangement of its vascular capillaries, which were finely injected with what would appear to be a slightly coloured serum, giving the most delicate rose tint that can possibly be conceived.

The whole plexus of vessels approaching the uterus and Fallopian tube, enclosed between the folds of the broad ligament, were, on the side corresponding to the turgid moiety of the uterus before noticed, distended with blood; the great mass of them were observed to take a course parallel to the Fallopian tube, but were connected together by innumerable cross and oblique branches, the whole forming a crimson band of net-work, about an inch and a quarter in width, extending between the ovarium and the uterus. The Fallopian tube and corpus fimbriatum on the same side were highly turgid, of a deep crimson colour, and appeared as if consisting entirely of an aggregation of injected capillaries. On the left side the vascular turgescence was less considerable, being confined principally to the outer extremity of the Fallopian tube and the adjacent parts.

The ovarian bodies were greatly enlarged; both were covered with circutrices, beneath some of which were remains of yellow bodies in different stages of decadence. The left presented, at its upper part, a Graffian vesicle, which appeared to have arrived at a state of development beyond what is generally considered maturity. It was elevated to at least five-sixths of its entire dimension above the surface of the ovary in which it was embedded; and through its transparent walls the yellow germinal spot could be distinctly seen. Trunks of vessels of extreme minuteness, emerging from the surrounding stroma, mounted upwards upon the walls of this vesicle, subdividing into a multitude of smaller ramifications, some of which could be seen only by the aid of a powerful magnifier. A few of the loops constituting the *corpus fimbriatum* were adherent to the surface of the ovary close to the base of the ripe Graffian vesicle, as if designed to ensure the unerring insertion of the one within the other at the moment when the ovular separation is intended to be accomplished. It is more than probable that temporary attachment of the floating infundibulum of the Fallopian canal to the vicinity of each matured vesicle, previous to its evacuation, takes place on every such occasion; the bond of union becoming dissolved so soon as the purpose intended thereby shall have been fulfilled.

The patient, a young woman in respectable circumstances, nineteen years of age, had menstruated regularly without embarrassment since the age of sixteen. On the day when menstruation should have com-

menced, according to her own calculation, death deprived her of an affectionate friend and guardian; she had experienced the usual premonitory symptoms, but the menses did not appear. This failure was attributed to the fatigue and anxiety which she had endured for several days previously. Two days afterwards, during an angry altercation relative to deceased's property, the menses being still absent, she was seized with palpitations and syncope; from which, however, she soon recovered. Thirty hours later, having suffered severely in the interval from head-ache and languor, she was seized with violent hysteric convulsions, accompanied with a sense of choking. This first attack was said to have lasted several minutes, and to have left her extremely languid, but sensible. After a short interval the convulsions returned with increased severity, and continued to recur in quick succession, and in a few hours the patient was found to be totally insensible.

The author first saw her nine hours after the seizure; the features were tranquil, and of a leaden paleness; the eye was closed, and free from vascular turgescence, the pupil widely dilated; the teeth were firmly clenched, and the tongue protruded partially between them; the breathing was noisy, but not hurried or stertorous; the pulse, beating seventy-two in the minute, was full, but not free. Whilst prosecuting the inquiries, a violent paroxysm of tetanic convulsions came on, implicating, principally, the muscles of the abdomen, and, less powerfully, those of the thighs, legs, and arms; but producing scarcely a perceptible change upon the expression of the face. The abdominal muscles in the suprapubal region were gathered into the form of a circumscribed tumor, the size of a child's head, which became a little, though but very slightly, diminished by evacuation of the bladder with the catheter. This circumstance created a momentary suspicion of the existence of pregnancy, but examination per vaginam immediately cleared up the doubt; the os uteri being small and linear; its lips smooth and even; and the whole organ light, loose, and of the unimpregnated size. Moreover, the tumor in question, losing its circumscribed character as the spasm subsided, soon merged itself in a diffuse fulness of the whole hypogastric region, in which state the parts remained during the rest of the quiescent interval. Notwithstanding the employment of bleeding and other active measures, her symptoms acquired more and more the apoplectic character; the pupil was insensible to light, and dilated to a mere ring; the breathing became more laboured and stertorous, and the mouth frothy; and the convulsions ceased about two hours before the moment of dissolution. She died twenty-

four hours after the first convulsive seizure.

Mr. W. considered the above case illustrative of a form of disease consequent upon hysteric disturbance, which occurs much more frequently than has ever yet been acknowledged. Seldom does it happen, it is true, that a fatal termination is so speedily consummated, although such cases are by no means unfrequent; and in numerous instances, the issue, however protracted it may be, is nevertheless equally certain and disastrous.

Hysteric affections are generally considered by writers to be unattended with danger. On the contrary, Mr. W. thinks that a greater amount of irreparable mischief has its origin in this class of affections—in the female of adult age, than in derangement of any other system of organs, not excepting those of digestion and assimilation. The menstrual function, when healthily discharged, removes from the circulating mass a quantity of fluid, prepared for an especial purpose, over and above that which is required for the ordinary uses of the economy. During the activity of this organic effort the whole system acquires a peculiar susceptibility of morbid action. Should the evacuation be incomplete, the superabundant material is determined upon the internal parts, and disease is the result. Under such circumstances, congestion, followed by inflammation of the lungs, the liver, the bowels, the bladder, the kidneys, or of the fibrous tissues, is frequently originated; and a similar condition of the nervous centres, induced by the same cause, is very

commonly the proximate precursor of convulsive affections, epilepsy, paralysis, or of sudden death: together with the host of morbid manifestations vaguely referred to spinal irritation, of which examples are of daily occurrence.

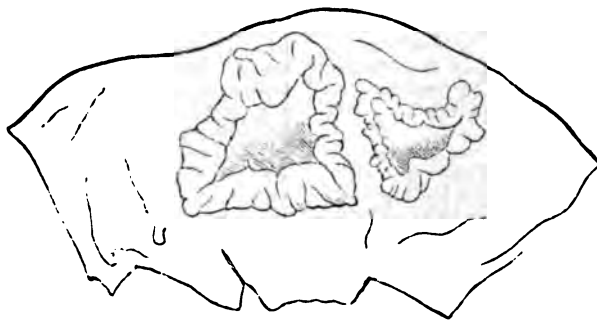
The like opinion was also expressed, in reference to the frequent fatality of menstrual metastasis to the brain and spinal marrow, by the eminent and learned Dr. Knox, of Edinburgh, who was present at the Society's meeting, and who offered some very interesting observations upon this class of diseases.

Two true Corpora Lutea in Ovary—One Fœtus found.

Dr. Renaud presented an ovary containing two true corpora lutea, taken from the body of a woman who died of thoracic disease in her seventh month of pregnancy, and from whose uterus he had subsequently extracted the fœtus.

Each corpus luteum was fleshy-looking, and had a central radiating membrane. The corpora lutea were lobulated and enclosed between the proper ovisacs. The one was much larger than the other, yet each was sufficiently characteristic to prevent mistake.

During the seven months of pregnancy no unusual symptoms were experienced, and, although the uterus was closely examined, no traces of a blighted ovum could be found. The accompanying woodcut represents the two corpora lutea as they appeared when drawn carefully under a powerful lens:—



The decreased size of the bodies, in consequence of the advanced period of pregnancy, rendered them less satisfactory than could have been desired: they, however, had their value, and, if viewed in connexion with medical evidence in courts of law, were deeply interesting. If the leading distinctions between true and false corpora lutea, as recognised by some, and denied by others, were to be taken into consideration,

and of the validity of which Dr. Renaud entertained no doubt, and whose opinions were already in print*, then the present case formed an exception to a general rule, most rare, and to the best of his belief the second only published, concerning the particulars of which there appeared to be no discrepancy.

* Monthly Journal of Medical Science, August 1845.

Dr. Francis also brought forward an ovary in which was secreted a yellow body, in size about that of a pea, and which seemed to belong to the variety termed false, or menstrual, or periodical. It was examined microscopically by Dr. Renaud, who found it to correspond with those bodies when about three weeks or one month old. The woman was for the nine months preceding death under the daily inspection of Dr. Francis, and during the entire of this period the catamenia had failed to appear. The preparation was brought before the society as an additional illustration, that these bodies are from time to time observed in the ovary, even when the outward evidences of menstruation are altogether wanting. It may be observed that twelve months had elapsed since the last childbirth.

Bony Tumor of the Dura Mater—Epilepsy.

Dr. Francis presented a solid bony tumor, as large as a horse bean, arising from the inner surface of the dura mater on the left side, and corresponding to the course of the meningeal artery. It had projected inwards during its growth, and had made for itself a corresponding depression in the surface of the brain, which gave evidence, from the presence of much opacity and thickening of the arachnoid, of having been subjected to protracted irritation from the tumor in question.

The patient, a man, aged 40, from whom it was taken, during the last few days of life had experienced a succession of epileptic fits, and died comatose. No history could be procured of his state prior to the occurrence of the illness which immediately preceded death.

The case served to illustrate the frequent dependence of epilepsy upon some organic source of irritation, affecting the surface of the brain, and which, although it might remain for some time latent whilst the circulation was in a quiescent state, yet became capable, under circumstances of unusual congestion, of giving rise to such symptoms as were witnessed in the present instance.

SOUTH LONDON MEDICAL SOCIETY.

March 18, 1847.

CHAS. WATERWORTH, Esq., President, in the Chair.

MR. STURTON read a case of

Abscess opening into the Aorta.

The patient, a widow, *æt.* 36, tall, of strumous diathesis, but without marks of scrofulous disease, was admitted into the Greenwich Union in May 1845, with a number of small ulcerations about the legs, for

which she was treated: there was no complaint of any thing else until the month of October, when a small pimple with redness first appeared on the neck: this breaking, discharged a small quantity of white and curdy matter, and was treated by simple applications. This continued discharge constituted all the annoyance she experienced from the disease, and there being no dyspnoea and cough, and only what the nurse termed "a sort of cluck in drinking" present, it was viewed as a case of neglected subcutaneous boil of little importance, and the patient was placed on middle diet, which was afterwards improved. On June 1st of the following year, while the legs were being dressed, a small quantity of blood trickled down the neck from the small aperture in front of the neck; and on the author's visit it was evident from the state of the bed, the patient's pulse, and distress of countenance, that a considerable quantity of blood had been lost. On removing the applications and cleansing the part, the bleeding appeared to have ceased of itself, but a compress and roller were applied, and extreme quiet enjoined as precautionary measures, with cold lotion to the neck. The hole appeared funnel-shaped, and resembled an old callous fistula in which a canula had been worn, but there was no communication with the windpipe. Next day, hæmorrhage returning, and the patient getting weaker, Mr. Busk was called in consultation. On his visit the hæmorrhage had ceased, and the dressings were removed, nor did it return on the part being squeezed about; but on the patient's being made to cough several times the aperture became suddenly filled with arterial blood, which passed out continually from the bottom, not exactly in jets, but with indistinct intermissions; the bleeding was sufficient to be alarming, but was stopped by means of pressure. On the following day bleeding came on with increased violence, and was ejected in a jet to a considerable height. On pressure being applied its external flow was prevented, but it appeared filling the cavity of the abscess, causing considerable swelling about the lower part of the neck and supra-clavicular region, which was attended with a diffused pulsation as of aneurism; this being the first time any pulsation had been distinctly noticed. The operation of tying the aorta, which suggested itself on consultation, under all circumstances could not be ventured upon. The vital powers of the patient were still further weakened by this fresh loss of blood, and she continued to sink, and died about 48 hours after the commencement of the hæmorrhage.

The following appearances presented themselves on an examination 12 hours

after death:—On placing the body on the table, a quantity of semifluid extremely foetid grumous coagula escaped from the opening, and a still larger quantity was expressed. The ulcerated opening was found to communicate with a large irregular cavity filled with foetid coagula; its internal surface was very uneven, flocculent, and its walls, of irregular thickness, were formed by the consolidation of the surrounding tissues, and in which were situated some enlarged glands free from scrofulous deposit; the cavity contained at least a pound of coagula, and occupied nearly the whole front of the neck below the thyroid cartilage, being bounded posteriorly by the trachea, which was covered with a thick deposit, and anteriorly by the integuments, fascia, and atrophied expansions of the sterno-thyroid, sterno-hyoid, and sterno-mastoid muscles, and extended on the right side downwards and backwards between the right bronchus, and arteria innominata, behind the root of the lung to the front and right side of the bodies of the two or three upper dorsal vertebrae, the ligamentous covering of which formed a portion of the walls of the abscess, and the bones, although not exposed, presented some small exostoses, indicative of the length of time the abscess must have extended to that point. Inferiorly the anterior cavity of the abscess reached the right side of the arch of the aorta for about two inches below the origin of the arteria innominata; the external cellular tunic of the aorta, as well as the greater part of the external side of the arteria innominata, was completely removed; the exposed middle coat was quite bare, and its fibrous structure clearly displayed. In the middle of the denuded portion of the aorta was a small fissure 1-8th of an inch long, directed obliquely as regarded the direction of the vessel. Internally the lining membrane exhibited at the corresponding point a narrow rent of the same size, with abrupt as if lacerated edges, and surrounding which was a very thin deposit of fibrine. Immediately within the orifice of the arteria innominata the internal surface of that vessel presented in a slight degree a similar deposit, and upon holding the part up to the light the wall of the arteria innominata, where contiguous to the abscess, appeared very thin, transparent, but without breach of continuity; the right bronchus, when corresponding to the abscess, presented a blackened spot and slight roughness of the mucous membrane. The heart and other parts were pretty healthy.

The author viewed this case as chiefly interesting as an instance of a communication formed between the cavity of an abscess and a large arterial trunk, in consequence of an ulcerative process being set up from

without, and producing such thinning of the arterial tunics as to lead to rupture under impetus of blood, and considered that if the rupture of the vessel had preceded the external opening of the abscess there would have been some difficulty in distinguishing it from an aneurismal swelling, which it much resembled by its pulsating character when a finger was applied to the external opening at the latter part of the case. Mr. Busk considered the abscess originated in the lymphatic glands at the lower part of the neck, especially above [the right bronchus. Another circumstance worthy of attention was the patient having lived 48 hours after rupture of the aorta, and not dying from sudden outpouring of the blood.

Dr. CHEVREUX considered the case related unique as regarded the aorta, although such cases had occurred in other vessels, and was very interesting in a pathological view. He inquired whether some swelling had not been detected about the neck previously to the formation of the opening.

Mr. STURTON replied, there was no swelling to attract attention, and stated, to questions from Messrs. Cock and Swete, that the appearance of the vertebrae appeared rather the result of pressure from the abscess, than of actual disease. The state of the internal coat of the artery was unhealthy.

Dr. HUGHES, alluding to the rarity of such a case, thought no one could have suspected any mischief connected with the aorta. There must have existed a large sac, and further evidence was wanted to show when this was formed. In vomicae and hæmoptoe rupture of a vessel was not uncommon, and in attacks of the latter during phthisis an open vessel could almost uniformly be traced, but it was unusual as regarded the aorta. Pressure of the abscess must have destroyed the external coat, and the internal gave way from the pressure of the blood. The sac was clearly that of a chronic abscess, not of an aneurism.

Mr. STURTON observed, that not more than a teaspoonful of discharge took place in twenty-four hours, and alluded to the appearance of the opening.

Mr. COCK did not consider there was evidence of a large abscess having existed, but that blood might have oozed gradually and gravitated. The disease probably originated in suppuration of a bronchial gland; the matter being bound down, and taking the course of the local fascia, an opening afterwards forming, and pus escaping where there was least resistance. It appeared impossible to say at what period the aorta gave way; probably the orifice was very small, and a very little blood escaped, and by degrees broke down the tissues. The ragged walls seemed to show that the blood had been extravasated some time. He

objected strongly to the removal of the bandages and disturbance of the part at a time when the hæmorrhage appeared to have ceased.

Dr. CHEVERS alluded to phthisical vomitæ, where an artery runs across: in such cases a kind of corrosion occurs, followed by rupture of the vessel and fatal hæmorrhage: in other cases, the external coats having become thin, an aneurismal bulging of the inner coat takes place, and afterwards gives way. He considered a small vessel would be more likely to become obliterated than a large one like the aorta. It was difficult to explain so large a collection of pus without any evidence of its existence: might not the sinus be a separate affair, and the abscess in rising up join with the fistulous opening? One would hardly have expected the woman would have lived so long; and he had seen many cases of ulceration in arteries: they escape in healthy persons, but in diseases, as scarlatina, where sloughing is present, dangerous hæmorrhage may be expected from the low state of the vital power, as their escape appears chiefly to depend on their independent supply of vascular and nervous power. Cases of ulceration of arteries from causes external to the vessel were mentioned. One where a portion of false tooth lodged in the œsophagus, and led to ulceration of the aorta; another, where a spicula of bone was followed by hæmorrhage from the subclavian artery.

Mr. SWETE having alluded to the effects of pressure in causing ulceration of vessels, and Dr. CHEVERS to the necessity of laying open a sinus where leading to an abscess near important parts, the Society adjourned.

MEDICAL SOCIETY OF LONDON.

Monday, March 1, 1847.

MR. DENDY, PRESIDENT.

Gonorrhœal Bronchitis; Erysipelas.

THE PRESIDENT said that since the last meeting, the gentleman whose case he related last Monday had had a return of discharge from the urethra, followed by an alleviation of all the symptoms. The dyspnoea was very much relieved, and the râle could scarcely be detected.

Dr. T. THOMPSON said that Dr. Stokes had written an interesting chapter on syphilitic bronchitis in his work on diseases of the chest. The cases mentioned by Dr. Stokes occurred after primary symptoms of syphilis, the symptoms being aggravated at nights, and relieved by mercury. In chronic bronchitis Dr. Stokes did not give mercury. He (Dr. Thompson) did not think the distinction between the ordinary cases of bronchitis made out.

Mr. HANCOCK had seen gonorrhœal discharge checked, and bronchitis supervene; but in cases of that kind, for instance, where the discharge stopped, and swelled testicle occurred, he considered it questionable whether it should not be ascribed to a slighter disease disappearing when a more severe one appeared, rather than to a pure metastasis. He did not think Dr. Stokes' cases bore upon the present one, as they arose after chancre. He mentioned the case of a patient suffering from gonorrhœa in a severe form, with chordee, &c., who was attacked with acute pain in the knee, which became much swollen. The dorsal veins of the penis were swollen, and in a high state of inflammation, and felt like hard wiry cords; the inflammation extended along the saphena vein, and the thigh became much swollen. He alluded to some cases, related at the Medical and Chirurgical Society, of swelled knee, followed by white thigh, and wished to know how much this swelling was due to phlebitis extending from the veins of the penis. He inquired if any one had seen cases of peritonitis coming on when the discharge in gonorrhœa was checked, and subsiding as it returned. He had seen such cases.

Mr. HIRD thought, if these enlargements of the joints occurred only in the lower extremities, we might trace it along the veins; but the upper extremities were often affected. The saphena vein communicated with the dorsal veins through the femoral, which must also have been affected. (This Mr. Hancock said was the case). In gonorrhœal rheumatism it was often difficult to trace continuity of surface.

Mr. HANCOCK said that joints became inflamed, with deposition of purulent matter, without continuity of surface. In phlebitis, matter was deposited in joints. The peculiar structure of the spongy portion of the penis was connected with the venous system.

Mr. HIRD has within the last three weeks seen several cases of erysipelas of a low type occurring after local injuries. One was the case of a gentleman, who fell during the frost, and grazed the side of the head. He had lived freely. A few days afterwards the wound became unhealthy, with a thin ichorous discharge; the integuments around it dark-coloured; the inflammation gradually extended over the head and face; the inflammatory symptoms were slight; the pulse below the natural standard. Stimulants were given almost from the first. The surface was dusted with hair-powder, and purgatives administered. There was no sloughing. He was now getting well. The treatment consisted of calomel, followed by occasional saline purgatives; afterwards ammonia, combined with the decoction of bark. The second case was that of an un-

married lady, of twenty-five years of age, who also fell during the frost, and injured her knee. Erysipelas came on round the knee, and extended nearly to the hip. There was considerable constitutional disturbance, a good deal of vesication, and slight sloughing. She required stimulants from the first, and had half a pint of wine daily. The third case was that of a child that had erysipelas of the head and face, following injury of the scalp, accompanied with a good deal of feverish irritation. There was no sloughing. She was excessively low, with muttering delirium, but was now getting well. He contrasted these cases with some he related to the Society a year or two since, in which the disease was of a highly inflammatory nature, and required depleting measures, venesection, and purgatives. It was necessary to treat the disease itself—not the name of it. Great mischief was done if we treated all cases alike. Most cases of erysipelas lately had been of low type, and probably connected with the state of the atmosphere. All the patients were in good circumstances.

Mr. HANCOCK agreed with Mr. Hird that the symptoms were to be treated. He had himself lately seen a good deal of erysipelas of a low type with great fatality, especially after operations, rapidly assuming a typhoid character, in spite of stimulants. He mentioned some cases of persons coming from the country who had abscesses opened, in which erysipelas rapidly came on, and caused death. No depletion had been used. He had observed the inflammatory blush to be of a brownish, and not of a rose, colour. In these cases the tongue was coated and dry. He was in the habit of attending particularly to the state of the alvine evacuations, and, even when the stools were watery, giving calomel and colocynth, followed by aromatic purgatives. He had found gin and water the best stimulant in these cases. He gave bark and carbonate of ammonia.

Mr. HIRD had not had occasion to puncture the integuments in his cases; but where there was much tension, with a quick pulse and febrile symptoms, punctures or incisions were very useful.

Mr. HANCOCK had seen no hardness or doughy feel; therefore did not make incisions.

Mr. BISHOP wished to know if Mr. HANCOCK had seen any cases out of hospital, as it might arise from the state of the wards.

Mr. HANCOCK had seen several.

Dr. T. THOMPSON had seen several cases like those related by Mr. HANCOCK. He narrated a case which he had seen last summer in the mountains of Wales. He thought that it was often connected with congestion of the liver. Calomel purgatives were in-

dicated, camphor being a beneficial addition. Turpentine injections were also useful. It was desirable to begin soon with sulphate of quinine. He thought that rubbing in mercurial ointment was a most advantageous mode of treatment, the inflammation under this application sooner fading away than under any other treatment. The solution of nitrate of silver was also a useful application, being better than powder or cotton wool. He would apply the mercurial ointment even to an extensive surface. He had not seen much benefit from the tincture of iodine.

Dr. CHOWNE thought local treatment of very little use in traumatic erysipelas, the disease being constitutional. Most cases required support, and not depletory remedies. He thought the contagious nature of erysipelas was proved by some cases which had recently occurred in Charing-Cross Hospital. A patient came in with erysipelas, was prematurely delivered, and died. There was no peritonitis. He thought that this was the origin of the cases. Many of the patients nursed the infant, particularly one young woman, who had erysipelas severely. He wished to know, if the whole head and face were affected, whether Dr. Thompson would anoint the whole surface with mercurial ointment.

Dr. T. THOMPSON said, that in most cases only half the head and face were affected. He had now and then applied it to the whole of the chest. We must consider all local applications merely as auxiliaries. He would avoid any remedy which would check the disease at once. Constitutional treatment was mainly to be relied on.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Tuesday, March 15, 1847.

J. M. ARNOTT, Esq. F.R.S. PRESIDENT.

Successful Removal of an Ovarian Tumor, complicated with Pregnancy. By H. E. BURD, Esq. Senior Surgeon to the Salop Infirmary. [Communicated by JAMES PAGET, Esq.]

A. J—, aged 25; inclined to be stout: has been married four years and had three children. She was admitted into the Salop Infirmary, February 28th, 1846. She stated that she detected a tumor in the belly after her last confinement, which occurred seven months since. All her confinements have been natural and favourable. The measurement of the abdomen at the time of her admission was thirty-seven inches: the tumor was moveable, and fluctuation was perceptible in it. An elastic bandage to support the swelling was recommended, as well as abstinence from all medical treatment. On

September 5th, she returned to the Infirmary, much increased in bulk, the measurement over the umbilicus being then forty-five inches, and fluctuation had become distinct. Above the navel the swelling was irregular, and apparently solid. Her dyspnoea was urgent, and she was unable to lie down. She said she had menstruated regularly since her return home, and was satisfied she was not pregnant—a statement which the absence of all local signs of that condition seemed to confirm. It being now determined to remove the tumor by operation, on the 15th of September, the patient was conveniently placed for the purpose, and a small incision was first made through the parietes of the abdomen, which was subsequently extended upwards to within an inch and a half of the ensiform cartilage and downwards to the pubes: no adhesions presented themselves. The largest cyst was then tapped, and more than three gallons of glairy fluid withdrawn; the tumor was then drawn out, and it was found that the uterus was in a gravid state, pregnancy being advanced probably to the third or fourth month. The very thick pedicle required the application of strong twine ligatures in three different compartments; and yet it was further thought desirable to tie each of the divided vessels separately after the pedicle was divided. The wound was then closed by sutures and adhesive plaster, and an opiate administered when the patient was placed in bed. The tumor was found to consist of a multiplicity of sacs, surrounded in some instances by solid matter; their walls were thick and solid; and the whole mass removed was computed to weigh about fifty pounds. In the evening the patient had uterine pains, for which an opiate was administered. On the following day (16th) she had much pain and tenderness in the left iliac region, for which she was bled to four ounces in the afternoon, with marked relief. On the 17th, abortion took place, without the occurrence of hæmorrhage. In the evening of the same day there was much tympanitis, with restlessness and hiccup. For this, brandy-and-water with ammonia, and three grains of opium powder, were given. On the 18th, she had rallied, but again sank towards evening, though beef-tea, milk, &c. had been allowed through the day. Opium and ammonia were again administered with decided benefit. She was further ordered ox-gall, ten grains; opium powder, three grains; which prescription was repeated at intervals, when called for, through the remainder of the time that the patient was under treatment. It was some time, however, before she threw off all alarming symptoms; for, on the 20th, her features were sharpened, her extremities cold, and she suffered from spasmodic contractions of the

diaphragm; and on the following day her abdomen was much distended with flatus, and tender. These symptoms, however, yielded to the exhibition of the opium and ox-gall, together with gentle stimulants, and the employment of fomentations and an injection. After the close of the month she rapidly improved, and early in November the wound was quite healed. The last report of her (on Dec. 24th) states, that since leaving the hospital she has felt no inconvenience, and was then fully employed in her domestic duties. The author remarks that he did not consider the operation was justifiable when his patient was first an inmate of the Infirmary, because her general health was undisturbed; and that the fact of her pregnancy being subsequently overlooked is referable to the absence of all signs of that condition, as well as the recurrence, according to the patient's account, of regular menstruation. An explanation of this apparent return of the catamenial period was afforded by examination of the aborted placenta, which was found to have been partially separated at one point, with a considerable clot adhering. It was not peritonitis, but the frequent occurrence of collapse, which excited alarm; and this was invariably and readily relieved by the administration of opium, ammonia, and brandy, of which the first exercised the most potent and immediate influence in rousing the system.

The PRESIDENT remarked, that though the operation performed in the case before the Society had been often resorted to, it was scarcely yet admitted into the regular category of surgical operations. It was desirable that we should have an impartial record of the experience of all those who had performed the operation.

Mr. PHILLIPS did not rise in the hope of throwing much light on the question of the operation of ovariectomy, although he had certainly had opportunities of witnessing its performance. He would make some comments on what he thought might be considered the drawbacks referable to this operation. 1st. It had led the profession to believe that operations of magnitude on the abdominal cavity were attended with less danger and mischief than was formerly supposed. Now he thought that this opinion was erroneous, and tended to the production of mischief; for these cases could not be fairly allied to the ordinary operations on the peritoneum, inasmuch as that membrane, in cases of ovarian tumors, was from some cause so much changed in character as to be less liable to inflammation than when these tumors did not exist. Another drawback in arriving at an opinion respecting this operation was our ignorance of the real results of the proceeding; for whilst successful cases were published with alacrity, most of

the unsuccessful ones never saw the light. The difficulty of diagnosis in cases of ovarian tumors was also another drawback in regard to this operation. Cases had occurred in which the operation had been begun, and left off in consequence of an error in diagnosis, either no tumor being present, or if so, not of a kind that would bear removal. Even the case before the Society was strongly illustrative of our difficulty of diagnosis; for had the operator known of the presence of pregnancy he would not have operated. Indeed, had the case gone wrong, he would probably not have escaped without censure. This was not, however, the first case in which pregnancy had been overlooked, and the operation commenced, more than one such mistake being on record. Operations had also been begun in which the operator had been certain of finding fluid in the tumor; but no fluid whatever was present. Added to all these difficulties, he might fairly assert that at the present moment we know of no certain means of determining the presence of adhesions. No doubt in some cases this might be ascertained; but in all cases, however ingenious the aids we might employ, no positive diagnosis on this point could be formed. What, then, were the circumstances which would justify us in the removal of an ovarian tumor. To answer this question, he might state that a very general conclusion was now come to, that the operation of tapping an ovarian cyst was a much more serious and dangerous proceeding than had been formerly supposed. It was at one time considered as a very simple matter; but his experience, and particularly as it related to four recent cases, had led him to a different opinion; for out of these four cases one died in a few days, and one only survived to undergo a second tapping. Here, then, was our position. A case was before us in which we knew that ordinary remedies were of little or no avail; and if ordinary tapping were as dangerous as he believed it was, we must inquire whether there was more danger in the operation for removal than in tapping, and whether it offered a better chance of cure. The danger, he believed, was no doubt more imminent; but still tapping was uncertain, and often fatal. If we knew the honest results really of the operation of ovariectomy,—if, in fact, the unsuccessful as well as the successful cases had all been given to us, then we should be in a position of knowing how far we were justified in recommending the removal of an ovarian tumor, and not, as now, in a state of uncertainty and doubt regarding the proceeding.

Dr. MAYO inquired what were the statistical results of tapping? Was it generally

so dangerous and fatal as in Mr. Phillips' opinion it appeared to be?

Mr. PHILLIPS could not answer the question as to the general result of tapping in ovarian dropsy. The average time, he believed, that life lasted, between the first and last tapping, was three or four years, or, he believed, even less.

Dr. LOCOCK could not refrain from offering a few remarks on the subject before the Society. He had certainly been astonished at the statement made by Mr. Phillips, that the danger of tapping was so much greater now than it was formerly. We had the same number of cases as formerly, and knew as much about the disease; he could not help, therefore, feeling surprised at the statement made by Mr. Phillips. He believed that the proceeding of puncturing a simple cyst was no more dangerous than it was formerly. He could not help thinking that in the comparison which Mr. Phillips had drawn between the dangers of tapping and ovariectomy he had quite overlooked the difference of the cases operated upon; but in our inquiry on this point, to arrive at an accurate conclusion, we must take into consideration the nature of the cyst. Now in cases of unilocular cyst, in which the patient was in good health, tapping would prolong life for many years; he himself had known cases of twenty years' duration. If, on the contrary, we tapped an unhealthy cyst, in a broken-down constitution, then there was little use in the proceeding; and these, and these only, he believed were the cases in which danger resulted from tapping. He had heard surgeons of great experience in this town state that death after a single tapping was very rare indeed. The late Dr. Gooch had told him that he never lost but one patient after tapping, although in a second instance severe peritonitis came on; but this was subdued and the dropsy permanently cured. We could only, then, compare the operations of tapping and ovariectomy, properly, by taking into consideration the nature of the cyst, its character complications, &c. Which were the cases, then, in which we could substitute a better mode of treatment than by tapping? In solid tumors, without fluid, we had no good grounds for endangering the lives of our patients by an operation for their removal, because we knew that in the majority of these instances, though often painful and inconvenient, life might go on for many years, and the patient attain a good old age. In cases where the cyst was simple, and the health unbroken, and where the fluid was of a serous character, the experience of the last few years had convinced him that the most successful treatment was a single tapping, followed by due and well-regulated pressure; the pressure to

be continued for months, at the expiration of which the patient would be well; or even if the fluid again formed, an operation of a more formidable character could be resorted to, for the little adhesion which might have resulted from the pressure would offer no obstacle to such a proceeding. He had seen several cases in which pressure had been employed with the most favourable result. In one case of common ovarian cyst, the tumor had been completely and permanently dispersed. It was well known that Sir Astley Cooper retarded the growth of solid ovarian tumors by the application of long continued pressure. A case had occurred to him (Dr. Locock) of a perplexing character, in which an ovarian cyst kept filling and bursting every six weeks into the cavity of the peritoneum. This continued for the space of twelve months. There could be no doubt that a tumor formed in the period named, and as regularly burst into the peritoneal cavity. After this had occurred eight or nine times, Sir Benjamin Brodie let out a very small quantity of the fluid from the ovarium; it was of a dark pea-soup colour. No further attempt was made to reduce the size of the cyst by evacuating it, and, of course, a quantity of fluid was left behind. To this collection pressure was made, the cyst never filled again, and it did not burst. The patient died subsequently from malignant disease of the liver, and on examination after death the ovarian cyst was found collapsed in the pelvis, containing a few shreds of coagulable lymph, similar to that found in the peritoneum. Four months since, another case had occurred to him; the cyst was simple, the health good. Eleven pints of fluid were drawn from the tumor, and firm pressure was applied, and had been kept up to the present time. There had been no return of the collection, and no sign of it. It might, perhaps, be said, that in this case sufficient time had not elapsed to determine the success of the proceeding. He (Dr. Locock) thought that the cases treated by Mr. Brown deserved the attention of the profession, though he thought that Mr. Brown was wrong in giving mercury and diuretics, for they were not only useless, but did positive harm. In his (Dr. Locock's) cases, Mr. Brown's plan was followed, but no mercury was given, and they went on well. He had said enough of this class of cases to show that in simple ovarian cysts we had a simple remedy, which offered a fair chance of recovery to the patient. Now one kind of case was left, and that was where the growth was of a malignant character or the tumor many-cysted. In such cases, little benefit could result from tapping or pressure, and in these alone was an operation for removal to be performed; and it was in these, it

must be recollected, that such operation was less likely than in others to relieve or cure.

Dr. CHOWNE considered that it had become the practice to defer tapping ovarian cysts, in consequence of their great proneness to refill, but that delay had the disadvantage of rendering the operation less successful, owing to the greater magnitude acquired by the cyst. In regard to the existence or non-existence of pregnancy, the difficulty of diagnosis was deeply to be regretted, where immediate decision was necessary; the usual symptoms were so interfered with and modified by ovarian disease as to render them liable to great uncertainty. He had, some time since, a patient who became pregnant, who had a large ovarian cyst, of more than three years' standing. The usual symptoms of pregnancy were so interfered with as to prevent absolute reliance upon them. After careful application of the stethoscope, however, he heard the foetal heart. The child was born soon after the termination of the sixth month, and lived a few days. He considered the utility of the stethoscope, in such cases, to be very great. The patient is at this time nearly as well as she was prior to the event. She wears a belt, which appears to be useful in restraining the disease. The disease has existed nearly six years.

Dr. CURSHAM inquired if the experience of Dr. Locock confirmed that of Sir Astley Cooper, that pressure was useful in cases of ovarian tumors of a solid character.

Dr. LOCOCK had found pressure of service in cases of solid ovarian tumors, but not so when the tumor was of a mixed character. He could not agree with Dr. Chowne as to the certain indication afforded by the stethoscope of pregnancy. If the child were dead, the stethoscope afforded us no assistance; and, if there were a large quantity of water between the ear and the foetus, it might be difficult, if not impossible, to detect the pulsation of the heart. He thought there were other means more to be depended upon, and the one most unequivocal in its results was the examination per vaginam or ballottement. In the case before the Society the uterus was probably too high up to be reached by the finger; but, if pregnancy had been suspected, the surgeon would no doubt have insisted on passing his hand into the vagina.

Mr. THOMAS SAFFORD LEE said, that the subject which was at present under the attention of the Society, viz. the result of the operation of tapping, was one of the greatest importance. The operation itself would, he thought, on examination, be found to be a very dangerous remedy, and, if so, would be an important argument in favour of the extraction of ovarian cysts. He begged leave, therefore, to present to the

Society a number of cases in which the results of tapping were distinctly stated, and which, he was sorry to add, did not accord with the experience of Dr. Locock. Mr. Southam, who had been a successful operator in two cases of ovarian dropsy, was greatly struck with the frequency with which unfavourable symptoms and death had followed the application of paracentesis, and more especially after the first operation; he therefore drew up a table, consisting of twenty cases (LONDON MEDICAL GAZETTE, Nov. 24th, 1843), in which the mortality was very apparent. The result of this table was, that of the twenty cases, fourteen died within nine months, two within eighteen months, and four in several years, after the first operation of paracentesis. "And it further appears," said he, "that paracentesis does not prolong life for more than eighteen months and nineteen days, and that one in five dies from the effects of the first operation." He (Mr. Lee) had also collected a table in which forty-six cases have been referred to, and thirty-seven of which died. Death took place in one in a few hours; in one, in twelve hours; in one, in twenty-four hours; in two, in two days; in one, in three days; in three, in four days; in one, in seven days; in one, in twelve days; in one, in two weeks; in one, in three weeks; in two, in one month; in three, in two months; in one, in three months; in two, in four months; in six, in twelve months; in one, in eighteen months; in one, in twenty months; in two, in two years; in two, in three years; in one, in six years; in one, in eight years; in one, in fifteen years. Thus proving, that, when the patient arrived at such a period of the disease as that in which the operation of tapping ought to be performed, great danger was very frequently the result. Now this danger not only arose after tapping, but more especially after the first operation; and, in the thirty-seven cases already referred to, eighteen had died after the first tapping: for instance, eighteen were only tapped once; two, twice; one, three times; two, four times; one, five times; one, seven times; one, ten times; one, twelve times; one, twenty times; one, twenty-three times; one, twenty-nine times; one, sixty-six times; one, seventy-eight times.

Not only was the operation of tapping dangerous, but the disease itself was of only short duration. He had collected 123 cases indiscriminately, from all the periodicals, in which the duration of ovarian dropsy, under any or every treatment, was mentioned. That was to say, the space, from the time of abdominal enlargement, to the death of the patient, was observed. Of the 123 cases, ovarian dropsy had existed at death in thirty-eight, one year, or under; in twenty five,

two years, or under; in seventeen, three years or under; in ten, four years, or under; in four, five years, or under; in five, six years, or under; in four, seven years, or under; in three, eight years, or under; in one, nine years, or under; in one, ten years, or under; in five, twelve years, or under; in five, sixteen years, or under; in one, twenty years, or under; in one, twenty-two years, or under; in two, twenty-five years, or under; in one, fifty years, or under. So that it will be seen, that ninety patients of the 123 did not survive four years. Also, in forty additional cases, collected from private sources, ovarian dropsy had existed in eight, one year, or under; in eleven, two years, or under; in eleven, three years, or under; in four, four years, or under; in two, six years, or under; in one, seven years, or under; in one, eight years, or under; in one, twelve years, or under; in one, thirty years, or under. Thus giving an additional evidence as to the mortality of ovarian disease, thirty-four out of forty having died within four years. Dr. F. Bird had also kindly favoured him with fifty cases, which had occurred in his own practice, where four died within one year; twelve within two years; twelve within three years; ten within four years; six within five years; two within eight years; two within nine years; two within ten years. It was thus seen, from the combined results of these observations, that the duration of ovarian dropsy was, in the great majority of cases, confined to four years—viz., 162 to 213.

Mr. CÆSAR HAWKINS, in reference to cases treated by tapping and pressure, inquired whether Dr. Locock had seen the last case mentioned by him lately.

Dr. CHOWNK said, that of course it was only when the child was living, that the stethoscope could give certain information with respect to pregnancy. Even, indeed, in some cases in which the child was living and strong, the heart's action could not be detected. Other causes, such as deficiency of the liquor amnii, prevented our arriving at a definite conclusion.

Dr. LOCOCK had seen seven cases in which pressure had been applied during the last two years, and in none had there been any return. The patient respecting whom Mr. Hawkins had made the inquiry, he (Dr. Locock) had not seen of late; but he had heard from her friends, and there was no sign of the disease returning. In all the cases but one, tapping had preceded the pressure, and in one only two teaspoonfuls of fluid was drawn off. Pressure alone, in cases of solid tumour, had decreased the size of the growths. With respect to the mortality after tapping, as exemplified by the statistics of Mr. Lee, he could only say, that it was contrary to the experience of all

practical men and hospital surgeons. He could only compare such statistics to the collection of deaths resulting from tooth-drawing, which would only be collected from their rarity; so death in these cases was remarkable from its so soon occurring after operation. No man of experience would bear out those statistics.

Mr. CÆSAR HAWKINS remarked that the question of the propriety of removing ovarian tumors by operation must still be doubtful, until we knew more respecting the ultimate results of pressure. He had put a question to Dr. Locock respecting a patient of his, because he had doubts regarding the success of Mr. Brown's treatment. Thus two of the cases returned as cured, Mr. Lee had discovered were dead; a third had died from suppuration in the sac, and he (Mr. Hawkins) had heard of a fourth case which was fatal. He could not speak from experience of the effects of pressure in those cases, but reasoning *a priori*, it would not appear to be likely to be of service, for in cases of simple cysts in other parts, something more than pressure, in inflammation or suppuration, was necessary to effect a cure. The irregularity of the pressure in ovarian cases was also a drawback to this plan of treatment; but it was a practice requiring further examination. He proceeded to speak of the occasional difficulties of diagnosis in these cases, and believed that fibrous tumors of the uterus were occasionally mistaken for ovarian growths. He agreed in opinion with Mr. Lee, that statistics showed that tapping was followed by length of life in only a very few cases, the generality of instances being comparatively soon fatal. He repeated that the plan of pressure required further investigation, and believed that in other cases incision was justifiable. He remarked that it was by no means necessary that the incision should be so large as that made in the case before them; in cases of simple cyst a small incision was often quite sufficient; he meant an incision under five inches in length. Mr. Lee had collected twenty-five cases in which ovarian tumors had been removed by what had been called the "large" and "small" operations: four only of these had died, showing a success greater than we found in other capital operations, as amputation. An incision of twelve or fourteen inches in length could only be necessary in cases of solid tumor.

Dr. MURPHY, in reference to the effects of tapping, remarked that no one man's single experience could give us a correct idea on the subject, for in many cases we knew only the immediate result, the tapping, it was said, having "cured." Statistical information only could be fairly relied on, and Mr. Lee's attempt in this respect was valua-

ble. Those statistics went strongly against the operation of tapping, for they showed that generally it was unsuccessful. Some cases, indeed, were remarkable from the patients having survived twenty-five or thirty years; but the large numbers of rapidly fatal cases were decidedly against the operation. One point of inquiry in these cases was our facility or non-facility of deciding whether the tumor were unilocular or multilocular. He believed it was very difficult to decide this point. Indeed, it was his belief that the simple cyst was the mere primary stage of the multilocular form of the disease. If this opinion were correct, the removal of fluid from one cyst could not cure the disease, as the other cysts would form and fill. To show the difficulty of treatment in these cases, he alluded to two instances of what were apparently simple unilocular cysts, fluctuation being distinct all over the tumor. In one, pressure was resorted to, with all means to keep up the health of the patient, as tonics, good diet, exercise, &c. At the end of three years the tumor had not increased in size; whilst in the other case, in which both tapping and pressure had been resorted to, the patient went from bad to worse.

The next meeting of the Society will be on the 13th of April.

Hospital and Infirmary Reports.

CASES TREATED AT THE WESTMINSTER HOSPITAL.

Reported by

GEORGE BRETHERTON BARRON, Esq.

Ulcer of the Leg.

SUSAN KING, æt. 24, was admitted into Sanctuary Ward, Dec. 1st, under the care of Mr. Phillips, with two irritable ulcers on her leg.

She was pale, excitable, and debilitated. The tongue covered with a creamy coat, and the bowels confined.

2d.—Hyd. Chlorid. gr. iij. statim. Haustus Sennæ postea Infusi Cinchona, ʒj.; Acidi Hydrochlorici Diluti, ℥x.; Tinct. Cinchona, ʒj. ter die.

4th.—She complains of want of sleep; the ulcers are painful.—Morphia Acetatis, gr. ss. o. n. Tinctura Opii, ʒss.; Aq. Calcis, ʒiv. ft. Lotio.

8th.—No decided amendment: the ulcers still painful.—Hydrargyri Bichloridi, gr. 1½; Tinct. Cinch. Comp. ʒjss. ter die.

13th.—Acid. Nitr. ℥xvj.; Aquæ, ʒviiij. ft. Lotio.

From this time she gradually improved until January 7th, when she complained of

severe pain in the face, apparently from toothache.—Hyd. Chlorid. gr. iij.; Pulv. Doveri, gr. x. statim; *Haustus Catharticus* post horas sex.

8th.—Much headache; little abatement of pain or swelling in the face; skin hot; pulse 92.—Mist. Diaphoret. 3jss. 4tis horis.

10th.—The face is now become erysipelatous; the headache severe, the bowels confined, the tongue loaded, but the skin less hot.—Hyd. Chlorid. gr. iij. *Haustus Sennæ* post horas tres.

11th.—The erysipelas persists; tongue becoming dry; pulse weak.—Mist. Vin. Gallic. 3j. 6tis horis.

12th.—Tongue still drier; pulse rapid and weak.—Mist. Spirit. Vin. Gall. 3ij. 6tis horis.

15th.—No amendment; tongue hard and dry; pulse rapid and flagging; less headache.—Mist. Spirit. Vin. Gall. 3ij. 3tis horis.

16th.—From this day the improvement was very rapid, and by the 21st the convalescence from the severe attack was complete.

21st.—Omitte Mist. Sp. Vin. Gal. Middle diet; porter, Oj. *Infusi Gentianæ* Comp. 3ij.; *Tincturæ Cinchonæ*, 3ij. *Tincturæ Cardomomi*, 3ij. 6tis horis.

From this time the progress towards convalescence was rapid and secure, and she was discharged January 21st, cured.

Encysted Hydrocele.

Charles Barrister, ætat. 32, was admitted into Mark Ward under the care of Mr. Phillips, Nov. 11th, with a small encysted hydrocele of left side. The cyst was not large, it did not exceed the bulk of a chestnut, but it occasioned the patient much discomfort. It had been observed about a year.

14th.—The diagnosis was confirmed by the introduction of a grooved needle along which a straw-coloured fluid passed.—To have *Haustus Sennæ* statim.

16th.—A single thread was passed through the cyst: the proof that it had penetrated through it was the escape of some of the fluid.

17th.—Violent inflammatory action was set up in twenty-four hours after the little operation; the mischief extended to the whole left side of the scrotum. There is much general excitement, pulse 86; tongue white.—To have Hyd. Chlorid. gr. iv.; Pulv. Antimonialis, gr. iij. statim. Mist. Diaphoret. ter die. Fomentations of Poppy decoction to be applied to the scrotum.

18th.—More constitutional disturbance; no sleep; pulse 96; bowels relieved.—Liq. Opil Sedat. ℥ssiv. hâc nocte.

19th.—The scrotum more swelled; the tumefaction principally confined to the

neighbourhood of the cyst; it is hard, but there is no feeling of fluctuation, although there have been distinct rigors.—Applic. Catap. Lin. turn ori.

20th.—Still suffering much general disturbance; the swelling is more prominent; obscure fluctuation.—Mist. Ammon. Acet. 3j.; Sp. Ether. Nitric. 3j.; Liq. Opil Sedat. ℥v. ter die.

21st.—This morning the tumor was punctured, and about two ounces of tolerably well-conditioned pus escaped with much relief to the patient.—To have fish diet.

23d.—The patient is much prostrated; he complains of want of sleep; much of the constitutional irritation has subsided. The tongue is loaded, the pulse quick. The discharge of pus continues free, but some portion of the integument seems likely to slough.—To have a little mutton and a pint of porter.

25th.—Still very depressed, though the symptoms have somewhat improved.—Infus. Cinchonæ, 3j.; Tinct. Cinchonæ, 3j.; Acid. Nitric. dil. ℥x. ter die.

28th.—Going on well; discharge still considerable. From this time his improvement was steady, and on the 21st of December he was discharged cured.

Phlegmonous Inflammation.

Ellen Mackay, ætat. 23, was admitted Dec. 21st, into Percy Ward, under the care of Mr. Phillips. She was suffering acutely from phlegmonous inflammation extending from the fingers to the elbow, and accompanied by pain and swelling in the axilla. The inflammation had been excited by a severe bite upon the middle finger.

There was much constitutional disturbance, with great mental depression; much pain in the head, nausea, loaded tongue, loss of appetite, with a very quick weak pulse.

The swelling of the arm was accompanied by fresh redness; the tension was not very great, but the skin was glistening.—To have scarifications made over the inflamed surface, and the part to be afterwards wrapped in flannel, wrung out of warm water for the purpose of encouraging bleeding, so as to relieve the cutaneous vessels.—Pulv. Hyd. Chlorid. c. Jalap. gr. xv. h. s.

22d.—The scarifications have produced great relief; the redness and swelling are greatly abated; the headache is lessened, and the tongue much cleaner than yesterday. The bowels have not been sufficiently relieved.—*Haustus Catharticus* statim. Beef tea.

23d.—The bowels are relieved, but there are signs of flagging, and the redness is more livid.—Mist. Sp. Vin. Gall. 3j. ter die.

25th.—Very much improved in all respects.—Mutton chop, Osa. porter.

27th.—From this time the convalescence was complete, and she was discharged cured, January 17th.

Correspondence.

ANTIDOTE FOR RESUSCITATING PATIENTS AFTER INHALING THE VAPOUR OF ETHER.

SIR,—For the last week I have been using as an antidote for resuscitating patients after inhaling the vapour of ether, pure oxygen gas, with the most perfect success. To-day I operated in nine cases on the teeth: to each patient I administered a full dose of the vapour of ether, and subsequently a few inhalations of oxygen. In not one case did the patient complain of debility, &c., but recovered perfectly in less than a minute and a half—timed by the medical men present.

I will, by your permission, furnish, in a future number of your journal, the details of these and other experiments with oxygen.

I remain, sir,

Your obedient servant,
JAMES ROBINSON.

7, Gower Street, Bedford Square,
March 29, 1847.

EFFECTS OF ETHER—THE CASE OF MRS. PARKINSON.

SIR,—It would have been a great advantage to the profession and public generally, in the case of Mrs. Parkinson, who is said to have died from the effects of ether inhaled by her during an operation, if we had been furnished with a detailed report of the evidence, especially that of the medical gentleman.

If some such information as the following had been given the profession and the public would have been in some degree enabled to form a correct opinion. What apparatus was used?—1. Whether the patient breathed into and out of the same vessel?—2. How often had the person administered the vapour before, and in what cases?—The size and nature of the vessel in which the vapour was generated?—The size or bore of the tube?—3. The quantity and quality of the ether?—4. If washed or unwashed?—5. The specific gravity of the ether?—6. If the apparatus was placed in hot or warm water? and if so, the temperature?—7. The temperature of the room in which the operation was performed?—8. Was the apparatus placed above or below the mouth of the person inhaling the ether?—9. If the pupils retained their contractility?—10. Was the mucous membrane of the nostrils still sensible?—11. If the mouth and nostrils were perfectly

closed?—12. The state of the pulse before, during, and after the operation?—13. The breathing, if slow, laborious, or natural?—14. The appearance of the face, head, and lips, if congested, pale, or livid?

As a member of the profession I feel deeply interested in the subject, and if by any means the information here suggested could be supplied I should then be in a much better position than at present to form a judgment.—I remain, sir,

Your obedient servant,

ALEX. FAIRBROTHER,
Senior Physician to the Bristol
General Hospital.

Bristol, March 25th, 1847.

* * The following answers to Dr. Fairbrother's questions have been taken from a communication inserted in the *Times*:—

"1. Out of, but not into.—2. Six or seven times, several cases being merely extraction of teeth, and one the removal of a portion of a toe.—3. About an ounce of pure washed ether prepared for inhaling, but a portion remained after the administration.—4. Washed.—5. From .733 to .765.—6. In neither.—7. About temperate.—8. Below.—9. No; they became dilated.—10. Not examined, but the conjunctiva of the eye was sensible.—11. During the inhalation preceding the operation they were, but they were not during the second inhalation, after the operation had commenced, from the difficulty of keeping the head still.—12. The pulse was natural in the morning, being about 76, rose to 84 previous to the inhalation (probably from the appearance of the surgeons and expectation of operation), and during the inhalation rapidly increased to 140, but before inhalation ceased it became small and feeble.—13. Breathing rapid for a short time when effect first produced, and then became natural.—14. Face pallid, lips natural, but slightly congested."

ON A SIMPLE MODE OF EMPLOYING ETHER IN DENTAL SURGERY.

SIR,—The excitement the use of ether in operations has caused, and is still causing, in the medical profession, will, I trust, be a sufficient excuse for my troubling you with the following cases, and my few remarks upon them. I should not have troubled you with them, I believe, but for the discovery by Dr. Smith of the use of sponge as a substitute for all the complicated apparatus now in use for the purpose of administering it. With these apologetic and prefatory remarks, I submit my cases, and trust you will find them sufficiently interesting for a place in the columns of your journal.

CASE I.—Ann Beale, aged 24, of a

robust frame, but had been ill for the preceding three months, residing at 7, Imperial Square, had the ether administered by Dr. Brookes, from a modification of Dr. Snow's apparatus: became unconscious in three minutes, and had four stumps extracted without the slightest evidence of pain. She shortly became conscious, but complained of feeling a little sick and giddy, which feeling continued for three days afterwards, and then left her quite as well as before.

II.—Eliza Shill, one of my servants, aged 21, of robust habit of body, but subject to fainting fits and hysteria, inhaled from Mr. Robinson's apparatus, and became partly unconscious in three minutes. I extracted a lateral tooth (very difficult, from its position inside the front ones) and two stumps. She was slightly hysterical, and gave evidence of feeling pain, but on recovering positively asserted she had felt none, and said she had a dreamy consciousness of what we were about. She felt very faint for about an hour afterwards, although I gave her wine, but since then has felt nothing.

III.—M. A. Saunders, another of my servants, aged 26, of a spare habit of body, but very strong and healthy, inhaled from the same, and became unconscious in five minutes. Had three stumps extracted, but resisted slightly, and cried out: on recovering, she stated most positively she had felt no pain whatever, but had cried out through fear. She was very much afraid of the operation, having refused the day before when everything was prepared for her to inhale. She regained her consciousness in two minutes, and felt no ill effect afterwards, but described her sensations as being very pleasant. In the following cases, Dr. Smith, of Portland House, administered the ether for me.

IV.—T. B., aged 28, of robust frame, but not in good health, became completely insensible after inhaling eight minutes. Had an upper molar tooth extracted without the slightest feeling; became conscious in five minutes, and described his sensations as most pleasing, which I have no doubt was the case, from his manner and language.

V.—E. J., aged 20, enceinte, became partly unconscious in seven minutes, suffering much from a feeling of sickness while inhaling. Had a lower molar tooth extracted (a very bad one): she made a moaning noise when it was taken out, but did not move; and stated on regaining her consciousness that she had felt nothing. I saw her the next day, and found she had felt a slight degree of giddiness at times during the day, but slept as usual at night, and awoke in the morning quite well.

VI.—James Griffiths, aged 29, of spare frame, and indifferent health, a servant at

the Queen's Hotel, became perfectly unconscious in six minutes, and in that state lost the first bicuspid tooth: I say lost, for he had not the least knowledge of how or when it went, and it was quite ludicrous to see him feeling with his finger several times before he could satisfy himself that it was gone. He shivered very much on recovering, and complained of great coldness, but on my giving him a wineglassful of brandy and water that feeling left him directly. He felt sick on getting home; took a cup of warm tea, and vomited, and then went about his work as usual, feeling nothing afterwards.

VII.—G. Taxwell, aged 19, in robust health. After inhaling for five minutes became apparently unconscious, but on my speaking to her was roused directly. She inhaled again, and was insensible, but again awoke on a slight noise being made: we gave it to her again for three minutes, and she became as before unconscious, but was partly aroused on taking the tube from her mouth. I took a large molar tooth out, and she said she felt pain, but not near so much as on former occasions: she felt slightly giddy the whole day, but was able to attend to her duties as usual, slept very sound at night, and awoke the next morning free from any unpleasant sensation. It would appear from this that perfect quiet is necessary in some cases, as this patient was aroused on the least noise being made.

VIII.—M. B., aged 34, of robust frame. Had never had a tooth extracted, from fear: was much alarmed at the idea, and resisted very much. After beginning to inhale was very sick,—partly, it would appear, from exhaustion, not having taken any solid food for the three preceding days. She became unconscious in eight minutes, and I extracted an upper molar tooth for her without the least evidence of pain. On recovering, she stated she was not conscious of any thing, but the unpleasant taste of ether: was sick the whole day, but was quite well next morning, and has felt nothing since.

In all these cases except the first, ether was inhaled from Mr. Robinson's apparatus, and administered according to his directions; but so much struggling was often occasioned by closing the nostrils of the patient as materially to interfere with the success of the operation: and the apparatus being so unwieldy, that, although the best I had yet seen, it appeared to me not to be generally applicable to dental surgery. My idea was, that something perforated with a number of small holes (a glass cup or basin) of a sufficient size to hold a piece of sponge saturated with ether, and large enough to cover the whole mouth and nostrils, would be a good substitute for this rather clumsy

apparatus. I would also do away with the necessity of using metal, which I was quite satisfied must be injurious, as the vapour of ether, and the breath constantly passing through, would decompose it, producing oxides (?) Dr. Smith, to whom the greatest credit is due for his skill and perseverance in administering the ether, instantly improved on the idea, by substituting a piece of sponge itself, and with such a manifest and decided advantage over every other way (as yet published) of administering it, as I think entirely to supersede every kind of apparatus now in use. The mode of using it is simply this:—Get a piece of sponge, quite clean and free from grit, large enough to cover the mouth and nostrils; immerse it in water about 50 degrees below boiling heat; squeeze it as dry as you can from the quantity of ether (from half an ounce to an ounce at a time will be sufficient) into a tumbler or glass basin: dip your sponge in, and it is then ready for use. Should the vapour be too powerful for the patient, hold the sponge at a little distance from the mouth, gradually advancing it as they can bear it. I have used it in thirteen cases since Monday, and in one of them to a child not seven years old, with complete success. I feel perfectly satisfied from its simplicity and many advantages it cannot fail to do away with all other kinds of apparatus.

The first case in which we used it was on Monday last, the 15th inst., on Jane Richards, residing at No. 6, Oriel Place. She had a front tooth and the two lower dentes sapientie removed, without being in any way conscious of its having been done. She was kept under the influence of ether for three quarters of an hour. I saw her the next day, and she had felt no ill effects whatever; and this I think worthy of notice, as I believe it is the first case on record of any one being under the influence so long, and should go far to do away with the objection many have to using it. Her own expression the next morning was, that she felt as well as she had ever done in her life, and was anxious to inhale the ether again to have two stumps removed, but I thought it better to wait a few days. She was completely under its influence in two minutes from the first application of the sponge, and we had her sensibility completely under control for the whole of the time, suffering her partially to recover by removing the sponge, and rendering her insensible again almost immediately on replacing it.

The next case was Ann Abel, residing at St. Paul's Street North, aged 14. Became completely insensible in a minute and a half after applying the sponge, and had a lower molar tooth extracted without feeling, and

would not believe it till she felt with her finger. She regained consciousness in two minutes, and left the house directly, feeling no more, and not having been much longer in the house than she would have been had the tooth been removed in the ordinary way. She has felt nothing since.

The next case was Mrs. F., a lady residing at Montpellier Terrace. Became unconscious in two minutes; had two teeth extracted without the slightest pain: became slightly hysterical in a minute after the operation, but recovered immediately on smelling strong ammonia. Was completely restored to consciousness in two minutes more and could not (as she remarked to her sister who was with her) sufficiently thank me for having suggested it to her, as she had a great horror of having a tooth drawn. I saw her three days afterwards, and she had felt no ill effects whatever, except a slight degree of faintness in the evening, which went off on her going to bed. I have had ten cases since this, but as they presented no new feature, I do not think it worth while occupying more of your valuable space.

My remarks on the above cases will be very brief, leaving the facts to speak for themselves: they are reported without prejudice, and were all witnessed by medical men residing here.

My observation of them has led me to draw the following inference—that, although in not one of the cases has there been total failure in producing the desired effect, yet in some success has been partial. In some, total insensibility has been speedily produced; in others, such a degree of hysteria and excitement as would materially interfere with any capital operation. I should therefore suggest, that in any such operation, with our present very limited knowledge of the subject, it would be advisable, if possible, to ascertain by previous experiment whether ether will produce excitement or insensibility, but I feel quite satisfied that the surgeon and surgeon-dentist have obtained in the vapour of ether a very useful auxiliary in their operations.—I remain, sir,

Yours truly,
SOMERSET TIBBS.

56, Regent Street, Cheltenham,
February 18th, 1847.

. It is due to Mr. Tibbs to state that this letter has been in type for several weeks. The delay in its insertion has arisen from its length. The cases detailed in the above letter are chiefly interesting from the fact that several of them were among the first in which a sponge was the only means employed for the administration of the ether vapour.

DANGEROUS SYMPTOMS ARISING FROM THE USE OF ETHER VAPOUR.

SIR,—Having had some experience in the exhibition of the vapour of ether, I beg to submit the following case to the notice of the profession through the medium of your columns :—

F. P. presented herself, March 6th, 1847, for the extraction of a molar tooth of the lower jaw. She is a servant in a family, and 18 years of age: is of a florid complexion, well nourished, and plump in appearance. She showed some nervous trepidation, and on sitting down began to shed tears. She was affected at the time with enlarged tonsils, but as they did not obstruct the free passage of the air, I thought they would not be an objection to the inhalation. She was desirous of having the ether. She had no complaint of the lungs or of the heart, and expressed herself perfectly well except the tonsils. She took the ether freely, having heard of the benefit others derived from it. After inhaling one minute, the tube was removed from the mouth. The muscles being contracted, and the mouth firmly shut, there was a difficulty in opening it. As it took a little time to adjust the key, sensation returned, and she felt the pain of the extraction in an unmitigated degree. After the operation she bent her body backwards, and sank out of her chair: she gradually got the better, however, of the effects of the ether, and began to cry, and consciousness returned, but in a short time she again lapsed into a state of unconsciousness, with convulsive movements of the muscles, but she again got better, and attempted to walk, but could not; the convulsions returned. There were spasmodic movements of the muscles of the left side of the face, the angle of the mouth was drawn upwards, the head was hot, the cheeks flushed, the vessels of the conjunctiva injected, the pupils dilated, there were convulsive movements of the limbs, opisthotonos, and intense pain of the head. I endeavoured to refrigerate the head by means of towels soaked in cold water, which somewhat relieved the symptoms. I proposed to bleed her, but she strongly objected, as she had come against her mother's wish, and she was afraid of her censure. This state of things continued about half an hour; the refrigeration afforded but partial relief, the convulsions became stronger, the spasmodic twitchings of the muscles of the face more frequent and more violent, the pupil more and more dilated, the pulse full, hard, and bounding. There was no stertor of the breathing, nor was the countenance livid; on the contrary, the cheeks resembled two pieces of scarlet velvet: the breathing was not hurried.

I now found that bleeding was indispen-

sable, and she consented; I therefore opened a vein. The blood did not flow very freely, but I took a full bleeding (eighteen ounces) from the arm, with marked relief to the symptoms. The convulsions ceased; convulsions which only returned at intervals previously, now became established. At the end of the bleeding the pupil contracted on exposure to light; still there was spasmodic twitching of the muscles of the left side of the face. I directed the cold cloths to the head, to be continued when the muscular twitchings went off, and she began laughing. She then sat up, and arranged her hair, which had become dishevelled during her struggles. She declared that she was quite free from headache, and her head felt quite well, except a little confusion. She got up and walked home, a distance of about 200 yards.

The following was the report of a person I requested to see her in the evening :—She is excited, but not more than might be expected to be found in a nervous and hysterical patient. Headache, and pulse of 80, neither particularly full nor throbbing; pupil active, eye heavy and tearful; catamenia present since yesterday.—Ordered evaporating lotion to the head, five grains of calomel at bed-time, and a black draught. In the morning I saw her again.

On the 19th she had been leeches for headache; pulse 76, soft. There has been no return of convulsions since the bleeding from the arm. She feels giddy upon sitting up, and the auditory nerves are acutely sensitive to sounds.

Having entertained a very favourable opinion of the inhalation of ether from the many successive instances I had witnessed, I must say this and other cases have entirely altered my opinion, and very reluctantly am I induced to look upon the remedy as unsafe. It will, I think, be admitted that in this case it produced congestion of the brain; and I must confess that my opinion upon seeing the convulsions was, that had they not been promptly relieved by bleeding they would speedily have terminated in effusion, and I certainly should fear lest in a similar case the symptoms would become uncontrollable. I believe that upon inspiring the vapour of ether a small portion enters the circulation, which being conveyed to the brain, causes congestion of that organ. I think the nerves of motion convey the nervous influence from the brain, and that the nerves of sensation return it to the brain; the brain being compressed, the nervous influence is not returned to it: hence, there is an accumulation in the nerves of motion, and spasms are produced. Whether this theory be correct or not, I think it is pretty clear that ethereal inhalation does produce congestion of the brain, and this

congestion will be the most formidable obstacle I believe to the exhibition of ether. The use of the vapour would be inadmissible where there is a tendency to apoplexy, to epilepsy, or to convulsions in children, and also in plethoric individuals. When we consider that epilepsy once happening is liable to continual recurrence, we cannot too cautiously avoid exciting so formidable a disease.

A friend of mine saw F. P. on the 21st of March, when she was sitting up, and considered convalescent.—I am, sir,

Your obedient servant,

D. RICHARDSON.

29, Hampton Place, Western Road,
Brighton.

ON CARDIAC DISEASE IN INDIA.

SIR,—Permit me, with reference to cardiac disease in India, to observe, that after having had my attention particularly directed to the subject for a series of years in that country,* I am persuaded that its connection with rheumatism is extremely unfrequent, and particularly if we limit the term to the febrile disease, with inflammatory swelling of one or more of the joints. It is rare also to find either the pericardium or the outer surface of the heart implicated; indeed, these lesions, in our experience, have presented a remarkable uniformity, in an irregular, cartilaginous, or thickened, indurated state of some of the valves and base of the aorta, with hypertrophy and dilatation, specially of the left ventricles; or, what is equally frequent, true or sacculated aneurism of the base, or ascending arch of the aorta, or of the descending as it enters the abdomen. The average mortality by cardiac and aortic disease we have given as 3 per 1000 annually, and in nearly equal proportions, though we have seen it as high as 5 per 5000. The disease is evidently, in the first instance, a sub-acute arteritis in by far the majority of cases, and, in our opinion, attributable to over-exertion in the tight dress and accoutrements of the soldier.

Your obedient servant,

R. H. A. HUNTER,
Surgeon, 57th Regt.

Dover, 18th March, 1847.

Medical Intelligence.

THE BIRKENHEAD CASE OF DEATH FROM ALLEGED NEGLECT DURING LABOUR.

A REPORT of this case will be found at page 483. Mr. Steele, whose name is introduced

* Many of the cases, with remarks at the time, were published in the "Transactions of the Bombay Medical and Physical Society," and "India Journal of Medical Science." Calcutta.

into the report, has addressed a letter on the subject to the Editor of the Liverpool Mail, from which our account was taken. As an act of justice to the writer we insert the following extract:—

"On Tuesday, the 22d ultimo, the husband of the deceased came to my house about seven o'clock in the morning, and asked me to attend his wife, who was in labour. I asked him if he could pay a medical man. He said, "Yes," and that I "should be paid as soon as it was over." I then accompanied him to his residence, and found his wife in labour, and attended by a midwife and nurse. From the appearance of the place, and from the statements of the woman, I was convinced the man was not able to fulfil his promise of payment; in fact, that it was a case for a parish surgeon: but, on hearing that they had been twice for the "parish doctor," and he had not come, and on the man saying, he "supposed his wife must die because he had no money," I determined not to leave the woman, and proceeded without delay to adopt the means necessary for her relief. Finding the case to be one of unusual difficulty, I deemed it right to hold a consultation with another surgeon, and having first ascertained that I could safely leave my patient for a short time, I went myself to Mr. Stevenson, the oldest practitioner in the place, and requested him to see the case with me, telling him it was a pauper case, and that neither he nor I would get a fee. He kindly returned with me, and rendered the required assistance, and in due time the woman was delivered of a child, still-born and partially putrid, and not as stated in the reports "with one leg off and much mutilated;" there being only slight laceration of the skin of one foot and arm from incipient decomposition.

"I visited the woman again the same evening, and on the following day, when she was going on favourably; I then told the friends I should discontinue my attendance, and directed them to apply immediately to the relieving officer for an order for the parish surgeon, who would afford them not only medical attendance, but also food, which was then far more necessary for the patient, and which they had not the means of procuring, nor I the power of ordering. I heard no more of the case until Saturday, when the nurse called and told me the parish surgeon had not been, and that the deceased's husband would not go for him. I desired her to send some one immediately for the parish surgeon, and called afterwards myself, and ascertained that he was in attendance.

"I have Mr. Stevenson's authority for stating that he is satisfied that, from the moment I was sent for, no unnecessary or injurious delay occurred, and that the treat-

ment adopted by me was in all respects such as the case required; and, moreover, that he believes the woman's death was not owing to the nature of her labour, but that it resulted probably from her previous habits and her state of destitution. I deny most positively having said that I would leave the woman unless I was paid my fee or received some security, or that I had any intention of deserting the patient the moment I was aware of her situation and the difficulty of procuring assistance from the parish. The reason I transferred the case to the parish on the Wednesday, was because the parties were in want of the common necessities of life, and therefore my attendance would have been of little avail, whereas the parish surgeon has power to order anything necessary. I could not anticipate that this assistance would be delayed until Saturday, or even beyond a few hours, nor am I accountable for it, as I gave full directions to the friends where to obtain an order."

GENERAL MEDICAL ANNUITY FUND.

We have received from Mr. E. Daniell, of Newport Pagnell, a very long statement advocating the support of the General Medical Annuity Fund. It is proposed that the subscriptions shall be one guinea per annum, a sum which it is considered will be sufficient to carry out the objects of the institution. These appear to be good and praiseworthy, but the success of such a scheme must depend on the way in which it is worked.

We print the following extract from the statement before us:—"The difficulties under which many worthy and intelligent practitioners labour, in a pecuniary point of view, render insurance upon their lives often impossible; but admit that a prudent and careful man has paid from his yearly income, sufficient to guarantee to his widow a thousand pounds, now what is the interest she will receive from this amount? Unless she adopts some speculative mode of investment (which is always dangerous), or to obtain large interest gets security uncertain as to punctuality of payment, her income from the ordinary funds of the country will scarcely afford a very humble maintenance for herself; but if she have a family it is obvious she must herself labour to obtain any respectable position, and it may be she is utterly unqualified for such labour. The capital must not be touched, for that capital is designed for ulterior purposes, to place her children in suitable situations, and to enable them in the end to embark in business on their own account. Now, to meet such cases is the great object and design of the Directors of the 'General Medical Annuity Fund': an annuity oc-

curing from such a co-operative institution would place the widow in a position of comparative independence. But when the average calculation of mortality amongst medical men, as proved by statistical returns, is compared with other professions, the lowest on the scale, the inference is fair that many die before they can have had time to make provision of any kind."

OBITUARY.

On the 26th inst., at his house in Bedford Square, Mr. T. Wilkinson King, Lecturer on Pathological Anatomy, &c. at Guy's Hospital.

Selections from Journals.

THERAPEUTICS.

MODUS OPERANDI OF BLEEDING IN THORACIC INFLAMMATION. BY DR. ZIMMERMANN.

BLEEDING is most distinctly indicated in plethoric subjects, and its curative operation consists in the vacuum it causes in the vascular system. So soon as a vein is opened, the flow of the capillaries is rendered stronger, while that in the larger veins is interrupted. This stronger flow from the venous capillaries is communicated to the arterial capillaries; and hence the vacuum is first felt in the arterial system. The left ventricle is thus enabled to receive, or rather suck in, more blood from the lungs through the pulmonary veins, and so the pulmonary capillaries are relieved from congestion. Further, the right ventricle can now transmit to the lungs the blood sent to it from the right auricle; and the vena cava, the root of the venous capillaries, pours its blood more freely into the right auricle, and then the suction power of the heart, augmented by the vacuum, increases, and is communicated to the whole capillary system of the organism. This explanation, Dr. Zimmermann argues, is supported by the mode in which the blood pours from the punctured vein, as first the blood is forcibly projected, because of the quantity collected below the bandage; then it flows with less impetus, and at last appears as if it would cease altogether; but after a while it is projected more forcibly, and when a few ounces have been taken, the impetus is so great as to render it not always an easy matter to stop it. This chain of phenomena is most observable in sanguineous apoplexy, and whenever it happens it is to be considered a good sign. Fainting occurs at two stages of bleeding: the first, when only two or three ounces of blood have been taken; the second, when the quantity amounts to

twelve or eighteen ounces. Fainting in the first stage depends upon the action of the vacuum upon the left ventricle of the heart, and is a bad sign, because it shows that the exhaustive power has not extended to the pulmonary veins and capillaries, and that the congestion there is permanent. Fainting in the second stage depends on anæmia of the brain consequent on the depletion, and is a favourable symptom. The re-establishment of the circulation in the pulmonary capillaries, consequent on the vacuum caused by the abstraction of blood, is followed by a restoration to healthy functions of the pulmonary tissue. The nerves act again normally; the air-cells, relieved from pressure, become again permeable; and the ingress of oxygen to the blood is facilitated, while the pseudo-plasma is re-absorbed, provided it be recently effused, and have not undergone transformation.—*Brit. and For. Med. Rev.*

METEOROLOGICAL SUMMARY.

Mean Height of Barometer	29.69
" " Thermometer	48.8
Self-registering do. max. 77.3 min. 30.8	
" in the Thames water — 45' — 39'	
a From 12 observations daily. b Sun.	

RAIN, in inches, 0: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 4.9° above the monthly mean.

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Mar. 20.

BIRTHS.	DEATHS.	Av. of 5 Wint.
Males.... 772	Males.... 547	Males.... 542
Females.. 745	Females.. 567	Females.. 526
1517	1114	1068

DEATHS IN DIFFERENT DISTRICTS.

(34 in number;—*Registrars' Districts*, 129.
Population, in 1841, 1,915,104.)

WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326)	156
NORTH—St. Marylebone; St. Pancras; Islington; Hackney .. (Pop. 366,303)	223
CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London .. (Pop. 374,759)	195
EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar .. (Pop. 393,247)	222
SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich .. (Pop. 479,460)	319
Total	1114

CAUSES OF DEATH.

ALL CAUSES	1114	Winter av. 1068
SPECIFIED CAUSES	1106	
1. Zymotic (or Epidemic, Endemic, Contagious) Diseases ..	155	83
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	107	112
3. Brain, Spinal Marrow, Nerves, and Senses	171	170
4. Lungs and other Organs of Respiration	378	354
5. Heart and Bloodvessels	41	33
6. Stomach, Liver, and other Organs of Digestion	90	70
7. Diseases of the Kidneys, &c.	12	8
8. Childbirth, Diseases of the Uterus, &c.	18	13
9. Rheumatism, Diseases of the Bones, Joints, &c.	10	7
10. Skin, Cellular Tissue, &c.	4	2
11. Old Age	92	81
12. Violence, Privation, Cold, and Intemperance	30	30

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	9	Convulsion	48
Measles	10		
Scarlatina	13	Bronchitis	90
Hooping-cough	48	Pneumonia	77
Typhus	33	Phthisis	142
		Dis. of Lungs, &c.	13
Dropsy	15	Teething	11
Sudden deaths ..	12	Dis. Stomach, &c. ..	8
		Dis. of Liver, &c. ..	5
Hydrocephalus ..	34		
Apoplexy	25	Childbirth	16
Paralysis	27	Dis. of Uterus, &c. ..	1

REMARKS.—The total number of deaths was 46 above the winter average. The mortality from the Hooping-cough is on the increase.

NOTICES TO CORRESPONDENTS.

"A Reader of the Gazette."—We know of no reason why an *i* should be substituted for the last *e* in Cæsarean. All modern chemists now spell the word *Ether* without the diphthong, and most medical writers spell the word *Cæsarean* with the diphthong. Modes of spelling scientific terms cannot be based on any fixed rules: they must depend on usage.

Before receiving Mr. A. B. Steele's letter, we had already prepared for insertion the paragraph given at page 614 of the present number. We have, therefore, considered it unnecessary to insert the letter.

J. D.—The Iris forceps forwarded by our correspondent, and purchased eleven years ago, is perfectly similar to the instrument described in Dr. Beaumont's paper, page 502. There is, therefore, no novelty in the invention. Dr. B. admits in one part of his paper, that his instrument may have in it nothing new.

"Inquirer."—A member of the Royal College of Surgeons of England is expressly exempted from serving the office of overseer to the poor, and all other parish, ward, and leet offices, as well as upon juries, under Stat. 18, Geo. II. c. 15. Our correspondent has only to give notice to those who have summoned him, that he is a *practising* member of the College, and exempt under the above statute. From information which has reached us, it appears that medical men are often purposely drawn to serve in the office of parish constable. The object in this case is undoubtedly the extortion of money from a beginner.

Dr. Soltan's paper will have early insertion. We have been unavoidably compelled to postpone the letter of A, and a communication by a contributor on the Physiology of Cells.

Lectures.

A COURSE OF
LECTURES ON DENTAL PHYSIO-
LOGY AND SURGERY,
Delivered at the Middlesex Hospital School,
By JOHN TOMES, Esq.
Surgeon-Dentist to the Hospital.

LECTURE XI. (continued).

*Abscess in the substance of the dentine—
Loss of enamel and dentine from the
anterior surface of the teeth—Absorption
of the fangs of the permanent teeth—
cracks in the enamel—Pain in sound
teeth.*

Abscess in the dentine.—Abscess in the substance of the dentine, external to and unconnected with the pulp cavity, is extremely rare. Mr. Bell, I believe, records the only case yet published as occurring in the human tooth. I give it in his own words. "Mr. S., a medical gentleman, had long been suffering extreme pain in the right side of the lower jaw, apparently produced by the second molar tooth, which, however, had no external marks of disease. After a time inflammation took place in the periosteum of the root, and the tooth was in a measure loosened. As it now became

evident that the cause of the pain, which still continued to the most excruciating degree, was produced by the teeth, it was extracted; and as no diseased appearance was found on the surface, I sawed it asunder at the crown, and found a cavity in the solid bony structure perfectly circumscribed; the surrounding bone being white, and of a healthy and sound texture. Not the slightest appearance of disease existed in any other part of the tooth, excepting, that from the inflammation which had so long existed, the membrane itself had begun to suppurate. In this case, then, it appears that inflammation had occurred from some local cause in the bone of the tooth; that the vessels of the bone had formed pus, and that absorption had taken place in consequence of its pressure, and formed a cavity for its reception."

This case occurred at least twelve years since, and probably longer, as the edition of Mr. Bell's work bears the date of 1835. At that period the microscope was not much in use, and hence no account of the microscopic appearance of the tooth, about the abscess, or of the pus in the cavity, was given; without which it is a little difficult to understand how the cavity was produced by the process described. A case similar to that cited from Mr. Bell I have not seen, but I have two specimens which present a similar state in the elephant's tusk. In each of these there is a cavity in the substance of the dentine external to the pulp cavity, and perfectly unconnected with it, cavities without any outlet. The one (Fig. 38),

FIG. 38.



Fig. 38.—Portion of an elephant's tusk, with cavity in the dentine, apparently an abscess and without any outlet.

xxxix.—1010. April 9, 1847.

was, when opened, quite empty and dry, excepting only a small portion of dried membrane or fluid which seems to have settled in the most dependent part of the cavity, and then become inspissated. In the second specimen before you, the cavity is much larger, with no outlet, confined to the dentine, and lined by inspissated membrane, with here and there a spicula of dentine projecting from the walls of the cavity. The dentine around the cavity is marbled from the various directions taken by the tubuli, and is also permeated by numerous canals for vessels visible to the naked eye. The membrane which lines the cavity of the second specimen, when removed and softened with water, presents the appearance of a fibro-cellular tissue.

It may be difficult to suppose that these cavities in the dentine were formed in the same manner that an abscess is produced in the soft tissue; yet it may be so. That we cannot see how an abscess is produced in dentine, is no proof whatever that an abscess cannot occur in that tissue.

Loss of enamel and dentine from the anterior surfaces of the teeth.—I have now to call your attention to a very extraordinary disease (if it be a disease, and I assume it to be so rather upon the authority of others than my own conviction.) It consists in progressive loss of a portion of the enamel and dentine from the external surface of the teeth, without any appearance of disease in the dental tissues themselves. The more common appearance presented to the practitioner is a deep transverse groove, with sharp edges, as though cut with a file, in the necks of the front teeth, especially in the under jaw. The dentine laid bare is highly polished and smooth, but very slightly discoloured. The enamel at the upper edge of the groove is sharp, and often a little undetermined.

This condition of the teeth, though not confined to one side of the mouth, generally exists to a greater extent on one side than on the other, and, so far as my experience goes, does not extend farther back than the first molar. The groove is for the most part deepest in the more prominent teeth, and on the left side when the individual is right handed. It is not rare to find teeth almost cut off at the neck by this deepening groove; on the other hand, the groove may widen laterally, and so leave but little of the exterior surface of the tooth entire.

In the cases that have come under my notice the abrasion has commenced on the neck of the tooth immediately below the enamel, the gum having slightly receded and left the cementum exposed. The direction taken by the groove is always horizontal, and, as regards each tooth, transverse to its length, and invariably commences at

the neck of the tooth; never, so far as I know, midway in the crowns, or on the lingual surface of the teeth, unless the enamel has been defective. Mr. Bell, however, mentions an exception, in which the edges of the incisors were gradually reduced: he says—"When I first saw the patient, the abrasion had extended so far, that, when the mouth was closed, the anterior edges of the incisors of the upper and lower jaws were nearly a quarter of an inch asunder. The surface was uniform, even, and highly polished and continuous without the least break from one tooth to another. It extended to the bicuspidates, and was perfectly equal on both sides, and when the molars were closed the opening occasioned by this loss of substance in front was observed to be widest in the centre, diminishing gradually and equally on both sides to the last bicuspidates."

In Mr. Hunter's work on the teeth, you will find this condition described under the name of "Decay of the teeth by denudation," and ascribed to "an original disease in the tooth itself, and not to depend on accident, way of life, constitution, or any particular management of the teeth." Fox says, "As it appears to be connected with some cause which may produce a solution of the enamel, it is very possible that the saliva may have some influence, and that the friction of the lips may contribute to the removal of the enamel."

Supposing this gradual progressive loss of the dental tissues to be the result of disease in the tissues themselves, no satisfactory explanation of its cause has as yet been given. Were I to deduce a cause from the cases that have come under my own observation, I should at once ascribe it to friction, to the effect of the tooth-brush upon the softer parts of teeth themselves unusually soft, and for the following reasons:—First, that the process of removal commences below the enamel on the cementum, which is comparatively soft. Secondly, that the grooving is always in the commencement horizontal, in which direction the tooth-brush is used. Thirdly, that the exposed dentine is always highly polished, like a surface exposed to friction, and unlike one exposed to absorption. Fourthly, that the most prominent teeth are the first to suffer, and are the most deeply grooved, while the posterior teeth seem wholly to escape. Fifthly, the loss is confined to the anterior surface of the teeth: and lastly, I have never seen a case in the poorer of my hospital patients, who are not accustomed to use a tooth-brush, while many have presented themselves in private practice where our patients have that cleanly habit.

The consequences of the loss of dental substances are in many cases a sensation of

pain in the injured teeth on the application of sweet or acid substances to the exposed dentine, or of hot or cold fluids; occasionally, too, the groove becomes the seat of caries.

Inasmuch as the cause is not known, the treatment can be but little understood. However, you will be right in recommending strict forbearance from the application of acids to the exposed dentine, and also the very careful use of a soft tooth-brush; indeed, in the process of cleansing it is wiser in these cases to rub the anterior surface teeth with a napkin rather than with a brush. But while unnecessary friction is avoided, care should be taken that a good surface be kept on the exposed dentine, otherwise it will be attacked with caries, and the tooth or teeth will certainly be lost.

Absorption of the cementum and dentine of the permanent teeth.—The fangs of the permanent teeth are liable to absorption, though the instances of any considerable amount of absorption which come under our notice are not very numerous. Mr. Bell mentions a case in which the fangs of a *dens sapientia* were wholly removed, the crown having been previously destroyed by caries. The accompanying figure of a second molar exhibits partial absorption of the fangs, while the crown is to all appearance perfectly sound. I have seen many instances where the fangs of the anterior teeth, and especially the bicuspidates of the upper jaws, have been shortened by absorption.

FIG. 39.



Fig. 39.—A molar of the lower jaw, with the fangs thinned by absorption.

A slight but yet a noticeable amount of absorption about the ends of the fangs of teeth connected with periosteal diseases is very common. If the teeth removed for the cure of gum-boil be examined, a slight corroded state of the extremity of the fang will, in many cases, be found, and evidently the result of absorption. Fangs that remain in the gums after the destruction of the crowns by caries are often the subjects of absorption; and if these are removed from any cause, they, instead of being the usual size, as might have been expected, are found shortened.

On removing permanent teeth where the

jaws have been too contracted to allow a proper position for the whole set, I have on two occasions found that the fang of a permanent tooth already developed has been more or less absorbed to make way for the passage of an adjoining tooth in the process of development.

There is another form of absorption of the fang, which is described under the name of *spina ventosa* by Fox and others. The aperture of the fang through which the nerves and vessels pass, naturally very small, becomes in some cases of disease of the pulp, or dental periosteum, much dilated. Absorption occurring in this situation is no doubt the result of disease in the soft textures; and as these will come under our consideration at a future lecture, we will pass over this part of the subject for the present.

We have already occupied considerable space in describing the manner in which absorption of the fangs of temporary teeth is brought about; I need not, therefore, describe to you how (what appears to be) a similar process is effected in permanent teeth. It should, however, be borne in mind, that in the one instance the space vacated by the diminution of the temporary fang is occupied by the permanent tooth, while in the other case the place vacated in the socket is occupied by bone,—with a layer of vascular tissue in each case separating the increasing and diminishing textures. We have no means of recognising the loss by absorption till the tooth loosens and is removed, or is removed from some other cause.

Cracks in the enamel.—The enamel, especially of the front teeth, is liable to be traversed by vertical cracks. The surface of the fissures do not, however, separate, so that the defect can only be seen in certain oblique lights; unless, indeed, they have existed for a long period, when there will be a slight brown discolouration in the line of the fissure. In some cases there will be two or three cracks in each incisor, in others only one; but in either case I am not aware that there is any evidence to show that the durability of the teeth is lessened.

The only precaution to be adopted is cleanliness; and if the patient dreads slight discolouration, the use of tobacco should be avoided.

Pain in teeth without discoverable organic disease.—An apparently healthy tooth will in a few rare cases become the seat of pain, which resists every attempt at amelioration. Adopt what treatment you will, still the pain continues unabated, and the patient at last insists on the removal of the tooth.

Inspection after extraction brings no light

on the subject: the tooth seems in every part healthy, and the pulp shows no indication of disease. The pain is, however, no longer felt, which circumstance is a tolerably sure indication that the cause existed in the tooth itself, and not in any distant part, as would naturally be expected. Cases of this kind are rare, while sympathetic pain in sound teeth is very common; hence, the practice of indiscriminately extracting teeth whenever they become the seat of pain cannot be too strongly deprecated: for in nine-tenths of such cases the pain will be symptomatic, and when the tooth is removed will either remain in the gum or attack another tooth.

When, therefore, a patient complains of pain in a sound tooth, the mouth should be carefully examined, and if there are any stumps or unsound teeth they should be removed, rather than the one complained of, as they may, and often are, the cause of the mischief. Should this fail, or should there be no unsound teeth, a leech may be applied on the gum opposite the fang of the aching tooth, and a dose of aperient medicine administered. This failing, half-drachm doses of hydrochlorate of ammonia, taken at intervals of four hours for three successive doses, may be tried.* If this treatment brings no relief, your patient will probably insist upon having the tooth removed.

ABSCESS IN THE HYPOGASTRIC REGION.

At a recent meeting of the Sheffield Medical Society, Mr. Thomas detailed a case of abscess of the abdominal parietes, with simulated distension of the urinary bladder, in a boy aged 5. His health had been very good until about sixteen months ago, when an abscess formed in the perineum, which, on being opened, discharged a small quantity of pus, and soon healed. Last month he suffered from an attack of measles; and since then a tumor formed in the hypogastrium: the scrotum became oedematous. Has had great pain about the region of the bladder, and some difficulty in passing urine. His medical attendant suspected that there might be a calculus. On his admission into the Infirmary he was in very great pain, and the hypogastric tumor completely resembled a distended bladder. Mr. Thomas, finding an abscess existing in the perineum, opened it, and evacuated a considerable quantity of purulent matter, on which the hypogastric tumor entirely disappeared, and the patient is now rapidly recovering.—*Provincial Medical and Surgical Journal*.

* For an account of the use of hydrochlorate of ammonia in pains of the teeth and face, see *Dr. Watson's Lectures on the Practice of Physic*.

Original Communications.

ON THE TREATMENT OF OVARIAN DROPSY BY OPERATION*.

By W. H. BAINBRIGGE, F.R.C.S.
Surgeon to the Northern Hospital, Liverpool.

[At page 52, we reported a case of Ovarian Dropsy, treated by operation by Mr. Bainbrigg. This gentleman has forwarded to us a list of eighteen cases treated on a similar principle, and these he considers will justify the deductions made in the paper referred to.—*Ed. Gaz.*]

EIGHTEEN CASES OF OVARIAN DROPSY, TREATED ON THE PRINCIPLE OF MR. BAINBRIGGE'S OPERATION.

London Medical Gazette, vol. 18, p. 469.—An operation for relief of ovarian dropsy is recorded. An incision of about an inch and a half was made below the umbilicus; the sac was opened to about the extent of three inches, and evacuated, and a ligature passed through it, and secured externally, in order to keep the sac in contact with the abdominal parietes. There was a discharge for about a month, when it ceased, and the opening closed. The result was a permanent cure. By Mr. Currie, Liverpool.

Memoires de L'Académie Royale de Chirurgie, tom. ii p. 431 to 444, An. 1753.—A detailed report of two cases by Le Dran, in which an incision was made into the cyst, the contents evacuated, the wound kept open, and the suppurative process established in the cyst. The result was a permanent cure, a fistulous opening remaining in one of the cases for two years, and in the other for the remainder of the time up to which he had observed the case.

It appears that subsequently to these two successful cases Le Dran was in the habit of operating in this way. He says, he always found the fistula remained permanent, except in the solitary case above given, where he closed in two years. To keep open the communication with the interior of the cyst, he sometimes employed a tent, at others left the canula, or even

* Communicated by the author.

leaden tubes, in the wound, and occasionally used injections. He remarks on the inefficacy of tapping, and then says, "J'ai osé tenter une nouvelle route, et le succès a répondu à mon espérance;" from which it is natural to infer that he was eminently successful.

Lancet, vol. 13, p. 879.—Allusion is made to the above cases; and a similar one by Portal is mentioned, in which a cure followed.

Lancet, vol. 20, p. 603.—A case, by M. Rigollot, of St. Etienne, is given, in which, after the use of the trocar, irritating injections were employed. The cure was completed in a month.

London Medical Gazette, vol. 26, p. 349.—A case of ovarian dropsy, treated by tapping the tumor in the vagina. Although intended merely to liberate the fluid by tapping, the wound kept open, and a continuous discharge took place. Permanent cure.

Edinburgh Medical and Surgical Journal, vol. 16, p. 367.—A case of operation by incision,—closure of the opening by the surgeon,—spontaneous re-opening of it subsequently, of about the size of a small pea, from which, on the slightest exertion, matter flowed freely, which the operator considered an unusual effort of nature for her relief; it was followed by permanent subsidence of the tumor, and restoration of health. By Dr. M'Keever, Lying-in Hospital, Dublin.

In my case, as in the above, I regard the continuance of the discharge as an effort of nature to suppress any further development of the disease.

Medical Times, vol. 8, p. 233.—A case is quoted as having been given by Dr. Ollenroth, in which the wound was kept open, and the contents of the sac allowed to escape through it for a considerable period; followed by a permanent and radical cure.

London Medical and Surgical Journal, vol. 4, p. 428.—A case of permanent cure is recorded, by an incision into the sac; partial evacuation of its contents, and a tent left in the wound. Through the opening, a fluid and portions of the cyst from time to time were discharged. The opening remained fistulous.

London Medical and Surgical Journal, vol. 6, p. 320.—A case, by Mr. Langley, of ovarian dropsy complicated with pregnancy. He punctured the cyst in the vagina, the contents came

away, and the woman was soon after delivered. The editor remarks upon it: "The result of the case warrants paracentesis per vaginam; the advantage would be the gradual and constant discharge of the fluid by an opening so dependent." Of course he must allude to the fluid draining off as soon as formed again in the cyst, and have supposed such to have been the case in the present instance.

Philosophical Transactions, vol. 33.—Dr. Houston's case of operation for ovarian tumor. He found, on introducing the trocar, that no fluid came away; but on making an incision, he succeeded in drawing off the contents of the sac, which were partly gelatinous, partly pultaceous, and very considerable in quantity. He then brought the sides of the wound together, and secured them by suture, leaving an aperture, however, through which a discharge from the cyst continued to pass for some time. The opening finally closed, and the woman was completely cured, living fourteen years after, without any return of the tumor.

Archives Générales de Médecine, vol. 58, p. 362.—A case of ovarian abscess is given by M. Löwenhardt, of Prenzlau, in which he evacuated the contents of the ovary through an incision in the abdominal parietes. For about two months the matter continued to drain away, gradually decreasing in quantity. At the end of this time the tumor had quite disappeared, the discharge ceased, and the opening closed. He says, "La guérison était complète."

Archives Générales de Médecine, vol. 47, p. 354.—A case is recorded (extracted from the *American Journal*, February, 1838), in which Mr. Mussey, in attempting to extirpate a very large ovarian tumor, was prevented doing so by numerous and extensive adhesions. He was obliged to have recourse merely to making a small incision into the tumor, through which its contents were drawn off. He kept up the opening by means of a tent. A clear liquid came away for several days; it then became purulent, gradually diminishing in quantity for three weeks; when it closed, the tumor had disappeared. A year after, the woman was quite free from any return, and was delivered of her fourteenth child.

Archives Générales de Médecine, vol. 50, p. 487.—A case is quoted of an ope-

ration by Mr. Arnott, of the Middlesex Hospital, in which he punctured the vagina, and a discharge from the cyst continued for sixty-four days, when a complete cure was effected, and the opening in the vagina perfectly closed.

The editor, in his remarks, alludes to another case, similar in its nature and results to the one above mentioned, as having been published in the *Revue Médicale* by M. Recamier.

Archives Générales de Médecine, vol. 31, p. 427.—This is an account of an operation for extirpation of ovarian tumor, attempted by Dr. Ehrhartstein, in which, from an aperture in the external wound, serum continued to drain for some time, which afterwards changed into a milky fluid, and did not disappear till the ninth week after the operation, when the wound cicatrised, and the patient was cured.

Archives Générales de Médecine, vol. 20, p. 92.—A case is given by Dr. Dieffenbach, of Berlin, where the adhesions were such that he merely punctured the tumor after incision; a sanious matter continued to discharge itself through the wound for some time after, and the patient ultimately recovered.

Provincial Medical and Surgical Journal, vol. 3, 593.—Mr. Bainbrigge's operation for ovarian dropsy. In this case an incision was made through the abdominal parietes into the sac; the contents (twenty-five pints of sero-sanguineous fluid) were evacuated; a plug of lint was inserted to prevent union of the edges of the wound, by means of which a suppurative discharge was set up from the interior of the cyst, which was followed by its obliteration without a single bad symptom, and by a permanent cure.

NINETEEN CASES OF OVARIAN DISEASE, TREATED BY NATURE, ON THE PRINCIPLE WHICH MR. BAINBRIGGE HAS ADOPTED.

London Medical Gazette, vol. 16, p. 643.—Dr. Ramsbotham relates a case of ovarian dropsy, discharged through an opening made by nature at the umbilicus; the tumor disappeared. The patient lived eight years after, and had no return of it. He also mentions a similar case of Dr. Mead's.

London Medical Gazette, vol. 24, p. 966.—Dr. Henry Davies gives a case of ovarian tumor in which the integuments burst at the umbilicus, and dis-

charged a thick red fluid, which gave great relief. The discharge continued for seven years, during which the general health was good; it then closed. Two years after she died of apoplexy.

London Medical Gazette, vol. 25, p. 396.—A case of ovarian dropsy bursting at the umbilicus is related by Mr. Douglas, of Glasgow. The woman died two months after of peritonitis. From the particulars of this case there does not appear any reason for connecting the operation and the subsequent discharge with the peritonitis.

Lancet, vol. 2, 1839-40, p. 12.—Dr. Ingleby relates a case of ulceration through the abdominal parietes, through which an ovarian cyst emptied itself. There was a discharge for some time through the opening, followed by a permanent cure.

London Medical Gazette, vol. 35, p. 303.—A case is given of diminution of the cyst by a spontaneous opening into the abdomen at the navel, which discharged purulent lymph, and relieved the patient in a permanent manner. By Dr. Lambrecht.

Medical Times, vol. 13, p. 262.—A case of permanent cure of ovarian dropsy is related as having taken place after a spontaneous opening at the umbilicus, followed by a discharge of the contents of the sac, and formation of a fistulous passage, which subsequently closed.

Dublin Quarterly Journal, vol. 1, p. 519.—It is stated, that Dr. Montgomery has seen three cases in which ovarian cysts discharged their contents through the parietes of the abdomen. He does not state what the final results were; but had they been unfavourable or fatal, they would no doubt have been mentioned. A similar case is also alluded to as being at the time (January 6th, 1843) in Dr. Stevens's Hospital.

Edinburgh Medical and Surgical Journal, vol. 2, p. 180.—A case, by Mr. Anderson, is given, in which a spontaneous opening took place at the umbilicus. There was a discharge from the cyst, which lasted nine months, during which the tumor had gradually disappeared; she then died, as it would appear, from general cachexy, under which she had laboured long previous to the opening being formed. The state of this patient's health a year before the operation was such as, under

any circumstances, to render it improbable that she would live more than a few months.

London Medical Gazette, vol. 8, p. 291.—A case is given of discharge of the contents of an ovarian sac through a spontaneous opening in the vagina, which ulcerated, and no doubt allowed any new formed secretion gradually to escape. The consequence was almost complete disappearance of the tumor. By Dr. Elliotson.

London Medical Gazette, vol. 31, p. 572.—Dr. Waters gives a case of periodical return of an ovarian tumor, and its entire disappearance two or three times after a copious discharge of a thick, yellowish, ropy, fluid, *viâ recti et vaginæ*. After the last discharge, no return of the tumor had taken place, and the patient's health was in a satisfactory state.

Lancet, vol. 2, 1839-40, p. 12.—Dr. Ingleby gives a case of cure of ovarian dropsy, consequent on ulceration into the bladder, and permanent discharge per urethram, for upwards of a year, of albuminous fluid, shreds of coagulable lymph, and hydatids.

Lancet, vol. 2, 1839-40.—Dr. Ingleby gives a case of rupture of ovarian cyst into the intestinal canal, as evinced by the vomiting of the contents mixed with fecal matter, which he describes as lasting for some days, and followed by a cure.

Lancet, vol. 2, 1842-43, p. 422.—A case of spontaneous permanent cure of ovarian dropsy, by a discharge from the cyst per vaginam, of several days' duration.

Medico-Chirurgical Review, vol. 24, p. 206.—Gives three cases of cure by accidental rupture of a cyst into the vagina, and discharge through that opening; there can be no doubt that the discharge was continuous for a longer or shorter period.

Many more cases of the above description might be adduced if necessary for the further elucidation of this very interesting mode in which nature operates successfully for the cure of this formidable disease.

With respect to the *accidental cases* to which I have alluded, it appears to me that many cures have resulted from the bursting of the cyst into some portion of the intestines, or the bladder, as well as into the peritoneal cavity, under which circumstances a discharge

of the fluid takes place, continuing for a longer or a shorter period, and thus terminating, as in the cases above detailed, in a more or less permanent cure. Instances of this kind are by no means rare. As to those cases where an accidental external opening has been made into the cyst through the parietes of the abdomen, as in the well-known case of the goring by a bull, &c. &c., a permanent cure has been effected on similar principles.

The foregoing abstract professes to do no more than give a sufficient number of cases to exemplify the principle of the operation in question, and justify the conclusion I have arrived at. It is worth mentioning, that the farther I extended my search the more I became convinced that this operation has been regarded either with needless alarm or culpable indifference. In presenting these as cases in point, it is to be observed, that, with the exception of the first three on the list, it does not appear that the surgeons contemplated or understood the rationale of the operation. In their descriptions they seem to overlook the main fact, or mention it in a way to shew they attach little or no value to it; hence some of the cases must have laboured under serious disadvantages, arising from careless or injudicious after-treatment, or from the non-employment of subsidiary means calculated to promote a successful issue of the operation. The cases are, however, not the less on that account to be received in evidence, but rather the more; and I have no doubt that many of the cases on record in which the cure has been ascribed to different causes, or not attempted to be accounted for unless on some vague general principle, would, if more circumstantially detailed, exhibit the particular characteristic feature of the examples I have collected.

My list more than bears me out in the ratio I originally laid down, and even the two deaths may be accounted for, as indeed they were, by circumstances totally independent of the open state of the ovarian cyst or the discharge. It may be said that more extensive research would furnish many cases in which death has occurred either during a discharge so superinduced and maintained, or after its cessation.

I much doubt whether many such could be adduced: I have not been able to find them. Still, I admit a few might be met with, but they cannot be considered as applicable, unless it can be shown that the fatal issue might be fairly attributed to the discharge so established and circumstanced; and, even could this be demonstrated, I feel confident it would not disturb my ratio, as a counterbalancing proportion of successful cases would also be discoverable.

Among the numerous writers on ovarian disease, such as Morgagni, Cruveilhier, Despech, Lisars, &c. &c., few seem to have regarded this operation favourably: they either magnify its dangers or underrate its value. The cases they adduce in evidence against it do not apply. Instead of judiciously aiding nature in her friendly efforts, they interfere with and obstruct her by means of stimulating injections or irritating substances, such as canulas, leaden tubes, bougies, &c., left in the wound,—a wound which, of all others, requires to be managed with the utmost delicacy and caution. What can be more contrary to the true principles of surgery, and what other than disastrous or negative results could be expected to follow such practice? Cases treated in this way I exclude from the category. The errors of art must not be placed to the account of the operations of nature. Dr. Bright is one of those few authors who seem to have formed correct views on the subject, though not perhaps to have thoroughly appreciated its importance. He expresses himself to the effect that in some cases the wound does not close, and that suppuration continues for months or years, and that such an occurrence, so far from being fatal, prolongs existence. This judicious observer no doubt speaks from experience.

I beg to make a few additional remarks on my own case, suggested by a reconsideration of its details. On making the incision, I should not in any future case consider it advisable to remove a large portion of the cyst with a view to diminish the extent of the secreting surface: I should leave its gradual contraction to nature. In all the cases above given, where nature operated, the sac remained entire, and no bad symptoms followed. There is, besides,

an objection to it where the sac is free from adhesions. By removing a considerable portion of a large cyst, I should have a wound of many inches in extent to bring into adaptation with one of inferior dimensions. A puckering of the edges of the cyst would inevitably follow. These puckerings could not be applied to the lips of the external wound: union therefore might be incomplete, thereby endangering protrusion of the abdominal viscera and an escape of matter into the peritoneal cavity,—two very serious accidents, which must be most carefully guarded against. I should simply remove as much of the sac as would leave the opening in it as nearly as possible corresponding with that of the external wound, and unite the lips of both, accurately and smoothly, by the uninterrupted suture. I am now alluding to sacs free from adhesions at the point of operation.

But when the sac is adherent at this point, all this labour and difficulty are saved. Here it is worthy of note, that the very circumstance which most seriously complicates the major and minor operations, so called,—viz. the existence of adhesions which must be torn or cut through,—is not a source of danger, but rather a great advantage for the successful accomplishment of the present plan; and, indeed, could it be ascertained, by auscultation or otherwise, that adhesion to the walls of the abdomen existed at any particular point, I should select that point for my incision, provided it presented no extraordinary anatomical obstacle.

After the operation, all that is required is to introduce a tent of lint into the wound to prevent its closure, foment the whole of the abdomen with warm water, and keep the patient very quiet for a few days, allowing no escape of fluid at the time of dressing. The plug should be kept in firmly by means of a compress and bandage, and removed once or oftener in the twenty-four hours, according to the amount of secretion.

In my case, after the suppurative process had been established, the quantity of matter being for some time considerable, I placed the patient on a prone couch, to allow of its gravitation towards the external opening, and its gradual escape. More or less inflammatory action must be expected to ensue

after the operation; this should be allowed to subside, and no risk incurred of its increase by leaving canulas in the wound. The mere introduction of pieces of leather, softened by steeping in oil, as substitutes for the lint plug, produced so much irritation during the chronic discharge in my case, that I was compelled to have recourse to leeches and fomentations.

With respect to the cases in which nature herself performed the operation, I cannot help observing how wonderful and beautiful are her resources under such extremities! and how long and vainly has she laboured to indicate to us a safe and simple mode of treating ovarian dropsy! After hundreds of experiments and ages of experience, we cannot, I feel assured, act more wisely, even in the present day, than simply to watch her movements and imitate her example. Observe how cautiously she makes her external opening, and, instead of injuring the system by such a sweeping act as that of the major or minor operation, she almost imperceptibly sets up a new action in the cyst, adapts the treatment to circumstances, and gradually obliterates the cavity.

In bringing this case so prominently forward, and entering so minutely into its details, I have been influenced simply by a wish and animated by a hope that others may be induced to try a similar method, and reap a similar reward. I shall be glad to see the subject elucidated by other more gifted individuals.

PUNISHMENT FOR THE ILLEGAL PRACTICE OF MEDICINE.

M. VAISSIERE, a retired jeweller, has been prosecuted for employing what he calls an infallible specific for dispersing "cold humors." Having effected the miraculous cure of a scrofulous girl, he has since been overwhelmed with practice; he argued in defence that he employed his remedy merely from motives of humanity, although he admitted that he had received twenty pounds for one of his cures! He was then asked why, if his feelings of humanity were so strong, he kept his invaluable remedy a secret? he replied that he felt humiliated by being treated as a quack. The court fined him twelve shillings and costs.—*L'Union Médicale*.

THE ANATOMY, PHYSIOLOGY, AND PATHOLOGY OF NUCLEATED CELLS IN REFERENCE TO ADENOLOGY:

AS EMBODIED IN DR. THOMAS WILLIAMS'S
ESSAYS,

The Pathology of Cells (Guy's Hospital Reports, 1843); *Ueber die Pathologie der Zellen* (Berlin); *The Physiology of Cells* (op. cit. 1846).

BY A CONTRIBUTOR TO THE LONDON
MEDICAL GAZETTE ON CELL-
DEVELOPMENT, IN 1842.

A GRAND event in modern physiology was Purkinje's application of Schleiden and Schwann's discoveries—the growth of all organized structures by nucleated cells—to develop the mechanism and process of glandular secretion*. The formation of nucleated cells in and from the epithelial surface of mucous tubes—as demonstrated by Henle, and admirably illustrated by Bowman, who showed that the essential constituents of the urine are furnished by the epithelium of the tubuli uriniferi—are important facts which, in an extended and somewhat modified form, constitute the gist of our author's Essay on the Physiology of Cells.

Commencing with the diffused biliary economy of the lower invertebrata, and terminating in the concentrated and complex human liver, the invariable presence of four necessary glandular elements is demonstrated—1, a limitary or basement membrane, single, double, or formed of the surface of the secreting glandular cell; 2, a nucleated cell placed on the free external epithelial surface, or the basement membrane; 3, a capillary blood-vessel on the parenchymal surface of the membrane; 4, amorphous granules (fat or oil particles) contained within the cell. An accurate diagram, from the author's dissection, of the Actinian polype, shows that a follicle is not the most elementary termination of a mucous tubule, but a diffuse biliary apparatus, of nucleated cells furnished with cilia lodged in depressions formed by doublings in of the alimentary membrane. In this humble zoophyte

* Cyclop. of Anat. : art. Mucous Membrane.

† Phil. Trans. 1842, Part I.

the involucre, or cell-wall, forms the limitary (basement or hyaline) membrane.

The limitary membrane is viewed as a structure not merely admitting passive transudation, but impressing a positive change upon the blood elements, preparatory to the essential secretory change effected by the nucleated cell.

Passing from the "Radiaria" to the lower annellida, a sacculated, straight liver, destitute of cæcal appendices, is found in the earthworm; extent of intestinal surface being, however, deficient, compensation is made by concentration of the flask-shaped follicles, which open by common peduncles into the intestinal tube.

In the leech cæcal intestinal prolongations exist, and the biliary system is less aggregated. The ultimate glandular cell of the leech's biliary organ is said in size, amount of oil-globules, and other respects, closely to resemble the ultimate glandule-cells of the human liver (Phys. of Cells, p. 29). John Hunter's error (for even this truly illustrious zootomist, it seems, could occasionally err) consisted in regarding the entire alimentary system of annelata as their hepatic apparatus.

In myriapoda occurs the first appearance of the tubular—insect—as contrasted with the diffusive, radiated, annelidan biliary systems.

Insects are shown to possess an hepatic apparatus opening into the gastric system, and consisting either of beaded (moniliform) or uniform diametered hepatic tubes; the house-fly is delineated as instancing the former, the goat-moth the latter variety. In insects occurs the remarkable condition, the termination of the respiratory system in fatty matter; and this, although respiration is most active, and therefore the liver's decarbonizing function at its minimum, is an inversion of a general rule: thus, where respiration is slow decarbonization is active, and fat abounds, as in molluscs, reptiles, fishes; *vice versâ*, as in birds, where even the liver is wanting in adipose particles. Is the formation of wax in the bee of an hepatic character?

A follicular liver, abounding in fat-globules, and characterised by a double basement-membrane, indicating the greater complexity of the secretory process, constitutes the hepatic organ

of crustaceans, whether macrourous, as the shrimp, prawn, lobster; or brachyurous, as the crab, crawfish, woodlouse.

Of molluscs, the lower genera, cirrhopods, brachiopods, and ascidians, retrograde in their hepatic system to that of the radiated animals and lower annellata.

In conchifera and gasteropoda the liver terminates in bundles of vesicles filled with ultimate glandular cells, and opening by ducts into the stomach. In cephalopoda the fat element is more abundant.

The glandular secretion of vertebrata is distinguished from that of invertebrata, as furnished by two sources, the hepatic artery and vena portæ.

Commencing with osseous fishes, our author finds that of malacopterygii, fat globules abound in salmon, cod, whiting, and is sparing in the flat fishes, (platessæ vel pleuronectydes); of acanthopterygii, the esocidæ (pikes) have livers abounding in fat; the perch, *vice versâ*.

In reptiles respiration and decarbonization are torpid, and fat particles preponderate in the hepatic cells.

In birds the fat particles almost disappear. The liver of mammalia reintroduces the hepatic fat globules, so that in man the proportion of fat to the primitive biliary molecules is nearly the same as in the leech. In the course of the above descriptions and delineations Dr. Williams shows that in mucous tubules glandular secretion is equally distributed, centrally, parietally, proximally, distally; contrary to Mr. Goodsir's view, who refers glandular secretion to centres or circumscribed spots of action. (Physiol. of Cells, p. 39.)

To advert to the author's earlier essay, the phenomena of morbid cell-growth:

1. Cancer, dependent on that peculiar decomposition of the blood-elements termed cachexia, in consequence of which ensues a local perversion of nutrition; the blood cells being congenitally faulty, or else a morbid development occurring so that the cell, or aggregated cellular texture, is heteromorphous; that is, not merely foreign to the structure of the part where it is deposited, but absolutely having no counterpart in normal organic structures.

On heteromorphous glandular cells, according to their variations of number, figure, size, &c. Müller has founded three varieties of cancer, encephaloid, scirrroid, colloid.

The author restricts the term "inflammation" to changes of the liq. sanguinis occurring within the capillary vessels; the exudation corpuscle is therefore regarded as the primary morbid product without the blood-vessel system; under favourable conditions the exudation corpuscle reascends the track of organisation, otherwise becomes the pus globules, of which Dr. W. recognises three sorts, the one nucleated (healthy pus), the bi-nucleated (phlegmonous pus), the non-nucleated (ill-conditioned pus.) (Pathology of Cells, p. 11—15.) The mode of production and heteromorphous character of pus globules render them very suspicious items of the pathological catalogue.

Pus globules contain much albumen at the expense of fibrine.

Phthisis pulmonalis.—Of which engorgement with fat of the hepatic cells is a constant concomitant, both depending, as Dr. Addison has shown, on the scrofulous diathesis. Mr. Bowman states that one-third of phthisical cases have fatty engorgement of the hepatic glandular cells, (p. 19, also LOND. MED. GAZETTE, JAN. 1842.)

Jaundice.—In this disease our author has found the true glandular cells broken down, and biliary granules with fat particles set free.

Granular liver disease.—True biliary granules colourless, fat particles normal.

Fever.—Respiration accelerated, decarbonization (oxidation) rapid, fat cells of liver completely disappear, being yielded as fuel for the increased amount of oxygen.

Thus has a most imperfect glimpse been taken of a path as yet in this country scarcely entered upon. The writer is well aware his stock of knowledge is far too limited to do justice, even in review, to Dr. Willams's valuable contributions to physiology.

Should the few remarks here obtruded tend, however slightly, to bring the text thus commented upon before the observation of the scientific public, the object aimed at will not be fallen short of.

March 22d, 1847.

ON THE
NATURE AND PRINCIPLES OF TREAT-
MENT OF INFLAMMATION,
AND THE ALLIED DISORDERS OF THE
CIRCULATION.

BY GEORGE ROBINSON, M.D.

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[Continued from p. 17.]

PART X.

Of the Treatment of Inflammation.

AMONG other advantages to be derived from the extension of our pathological knowledge is the substitution of an intelligible and scientific for a vague and empirical treatment of disease. Our ignorance of the nature and immediate causes of many morbid conditions will probably long compel us to employ remedial agents whose mode of operation is in a great measure equally obscure. But the superiority of a system of therapeutics in which it shall be possible to trace the chain of connection between the administration of the remedy and the removal of the disorder, must be sufficiently obvious. Nor is the elucidation of the pathology of an affection practically useless, even where a tolerably successful plan of treatment has already been derived from a continued course of experimental observations on the diseased body, or in other words, from empirical practice. For a knowledge of the essential nature and mode of action of the immediate causes of a disease, by exhibiting the circumstances which determine its varied degrees of intensity, naturally indicates corresponding modifications in its treatment, and thus regulates, by fixed and definite principles, points of practice which would otherwise be left wholly to the judgment of an individual. The advancement of pathology, therefore, not only tends directly to the extension and elevation of therapeutical science, by suggesting new measures for the prevention and removal of disease, but also enables us to command greater precision in the use of known remedies, by reducing into constant and intelligible laws the vague impressions and

conflicting results of individual experience.

The measures found most successful in the treatment of inflammation are in such exact accordance with my conclusions as to the essential nature of that disease, that in a former part of this communication I could not avoid deducing, from their very efficacy, an argument in favour of the pathological doctrine there advanced. But, though experience has thus anticipated the results of reasoning, it may not be altogether uninteresting or unimportant to present here a brief outline of the principles of treatment which are suggested by the foregoing views of the nature of that affection. This will, at any rate, enable the practitioner to compare the therapeutic rules thus obtained, with those by which he is now influenced, in the employment of the same remedies.

The first and chief principle to be observed in the treatment of inflammation is the diminution of that unnatural pressure of the blood contained within the arteries and capillaries of the affected part which occasions its symptoms and immediate effects; while a second and scarcely less important indication has for its object the removal of those effects. And these two principles will be found to embrace every thing of essential importance in the treatment of this affection. But simple as they may appear, their practical application will be found to require the exercise of no little skill and judgment in correctly proportioning the activity of the agents employed to the peculiar necessities of each case.

In the mode of action of its causes, and in the details of its treatment, acute inflammation differs so materially from those less intense forms of the disorder which are variously known as asthenic, passive, congestive, chronic, &c., that for practical purposes they may almost be regarded as two distinct diseases. And as it is impossible to consider separately the innumerable shades of intensity which inflammation presents, my remarks will chiefly have reference to well-marked examples of the sthenic and asthenic varieties of the complaint.

Acute inflammation is in general either the result of the application of some local irritant, or a consequence of determination of blood; its superven-

tion upon the latter disorder being very frequently induced by the co-existence of a state of general plethora. As the disease under these circumstances originates rather in the arteries, than in the capillaries, of the affected part, an early and vigorous use of measures calculated to fulfil the first-mentioned therapeutic indication will generally suffice for the restoration of the capillary circulation to its normal state. But when, as more frequently happens, the distending pressure of the accumulated blood has been permitted to act for a length of time upon the walls of the capillaries, the contractility of these vessels becomes gradually exhausted throughout the whole, or a great portion, of their extent; they cease to oppose any active resistance to the dilating force of the contained fluid columns; the effusion of fibrinous and albuminous matter, or the extravasation of blood, proceeds uninterrupted, and a tedious and probably imperfect recovery is the most favourable result which can be expected.

Before, however, considering at greater length the principles which should regulate the employment of the more active antiphlogistic remedies, a few words on the diagnosis of internal inflammation may not be altogether misplaced. For every careful and candid practitioner must have occasionally experienced the difficulty of distinguishing between cases of real and merely apparent inflammation, and will also admit the possibility of inflammatory disease proceeding in a vital organ to a dangerous and even fatal extent, without occasioning during its progress any perceptible morbid phenomena. Nor does the existence of these difficulties appear extraordinary when we reflect upon the uncertainty and inconclusiveness of many of the data to which we are compelled to trust for the detection of disease. The power of correctly appreciating the value of symptoms is one of the highest qualifications of a medical practitioner; but this faculty, in its highest and most perfect form, can be acquired only by an attentive study of the laws of life as contained in the sciences of physiology and pathology. And I cannot but think that a neglect of this important study, consequent on an unreflecting and lasting adoption of

the dogmatic, and in many instances unfounded statements and unmeaning definitions of systematic nosologists, has been productive of some serious errors, both in the diagnosis and treatment of disease. These writers seem to have frequently mistaken its symptoms or effects for the disease itself, and by thus confounding, in their own minds, certain generally co-existent, but non-essential phenomena, with the actual malady, they have naturally impressed others with an idea that the two are inseparable, and consequently that the presence of these phenomena constitutes satisfactory proof of the existence of the disease; whereas, it is now generally admitted that the number of really pathognomonic symptoms is very limited; that the same morbid sensations and unnatural appearances may result from very opposite causes, and require for their removal very different plans of treatment, and that in the diagnosis of disease it is more prudent to check our first impressions until they have been tested and verified by a careful and comprehensive review of the great functions of the body, than to rely implicitly upon one or more prominent local symptoms.

Now, local pain, a very general, and by far the most striking symptom of internal inflammation, is, if taken *per se*, perhaps the most fallacious of all the manifestations of disordered action, for it may not only exist with the most opposite states of the system, and even with very different local disorders of the circulation, but, being regulated in its severity chiefly by the degree of sensibility possessed by the particular constitution or part affected, it ceases to furnish any definite information as to the activity or danger, or even the nature of the existing malady. The diseases, therefore, most liable to be mistaken for acute inflammation, are those in which the sensibility of a part or organ is, from some other cause, unnaturally augmented; such are neuralgic, hysterical, and rheumatic pains, and also certain forms of cerebral excitement. The special rules for discriminating between it and these several affections are, of course, inadmissible in a sketch of the general pathology of inflammation; but in addition to the other precautions already noticed I may mention the propriety of instituting, where practicable, a physical ex-

amination of the part affected, and of ascertaining, by the application of chemical agents, the nature of any change which may have taken place in the fluid discharged by glandular or effusing surfaces. The age, sex, diathesis, habits, &c. of the individual will also materially assist the diagnosis. Certain peculiar states of the constitution may moreover give rise to symptoms very closely resembling those of acute inflammation. In persons of a debilitated habit, in whom there exists at the same time great irritability of the nervous system—a combination of frequent occurrence in women and children—there may often be observed a tendency to morbid excitement of the nerves of sensation, very similar to that described by Dr. Hall and others, as one of the occasional effects of loss of blood. But of all the forms of pseudo-inflammatory disease, that simulation of peritonitis occasionally met with in the puerperal state is the most perplexing. Every symptom of inflammation may then be present; there may be a considerable degree of fever, quickness, and some hardness of the pulse, with intense pain (not confined merely to the skin covering the peritoneum), and the disease will nevertheless often rapidly vanish under the use of fomentations, alteratives, and moderate purgation. The task of determining the inflammatory or non-inflammatory nature of affections presenting the most prominent symptoms of that disease is therefore occasionally one of the greatest difficulty. And an error on this point, whether leading to the reduction of a system already too much enfeebled, or to the toleration, if not the active encouragement of acute inflammatory disease, has doubtless often been productive of very lamentable consequences.

The necessity of distinguishing between chronic inflammation and other lingering internal ailments is less urgent than when the disease assumes a more active form. It is also less practicable: but as the treatment of most chronic internal affections presents many points of resemblance, the probability of any serious error arising from its confusion with other disorders is very much diminished.

Resuming, then, the consideration of the principles on which the treatment of acute inflammation is to be

conducted, let us examine the action of the remedies calculated to effect the first-mentioned indication; namely, the diminution of the unnatural pressure of the blood contained within the vessels of the affected part. It has already been explained that the amount of distending pressure exercised by the blood detained in the obstructed capillaries is mainly regulated by the degree of impulse imparted to each minute arterial column by the pressure of the great mass of aortic blood. By reducing the general pressure of the blood contained within the arterial system, we therefore necessarily diminish the lateral pressure of the blood accumulated behind the obstructed portion of the affected capillaries, and thus relieve the intensity of the symptoms and reduce the activity of the inflammatory attack. The measures by which we are enabled to accomplish this object are very numerous; and the relative permanency of their depressing influence upon the system varying much, a wide field is left for the skill of the practitioner to exercise itself in selecting those best adapted to the peculiar circumstances of each case.

We reduce the general pressure of the arterial blood—

1.—By diminishing the quantity of the circulating fluid.

2.—By reducing the force and frequency of the heart's action.

The quantity of the circulating fluid may be diminished—

1.—By the direct abstraction of blood.

2.—By draining off its aqueo-albuminous portion.

3.—By abstinence from nourishment.

Now the propriety of restricting the supply of food to the lowest possible amount in cases of acute inflammation is unquestionable; nor can there be much difference of opinion as to the beneficial effect which generally attends a diminution of the quantity and impulse of the circulating fluid by means of active purgatives, diaphoretics, &c. But the abstraction of any considerable quantity of blood, and particularly the repetition of such a step, should always be preceded by a careful examination of the peculiarities of the constitution under treatment, and a comparison of them with

the laws regulating the employment of that powerful agent.

Bloodletting is frequently so convenient a remedy, and the temporary relief which it affords from painful and distressing symptoms so immediate and certain, that a hasty and unreflecting practitioner may insensibly contract a habit of using it where milder measures would prove equally efficacious. It moreover carries with it an appearance of vigour and promptness in the treatment of the complaint which is in general far from displeasing to the patient and his friends, and through its powerful sedative influence on the system it for a time so completely removes the unpleasant sensations, which in the mind of the sufferer constitute his disease, that its repetition is sometimes actually solicited. This very valuable remedy is therefore, like many others, from a variety of causes, liable to be abused. And while admitting the great advantage which attends copious bloodletting in many, perhaps a majority of cases of acute inflammation, I cannot avoid entertaining an opinion that, notwithstanding the judicious advice which has been offered by various writers, and the forcible description given by Dr. Hall of the injurious consequences of excessive or protracted loss of blood, the treatment of inflammation is still occasionally characterised by a great disregard of the evils which may result from an incautious use of the measures employed for its removal.

With the exception of cases in which the importance of the organ or part affected is such as to compel us to overlook the dangers and disadvantages which may result from the subsequent debility, general bloodletting seems to me to be chiefly and almost solely applicable to individuals in whom inflammation has supervened on, and exists with, a state of general plethora. Under these circumstances the quantity of circulating fluid is not only excessive, but the proportion of its fibrinous constituent is also unnaturally augmented, and a free abstraction of blood, by venesection or otherwise, then acts beneficially by changing the quality, as well as by diminishing the quantity and impulse, of the circu-

lating mass. But where there is no reason to suspect any material disorder in the quality or abnormal increase in its quantity—as when the disease is referable to some local irritation or occurs in persons of nervous and excitable constitution—depressants, the influence of which upon the system is less permanent than that of blood-letting, will generally be found capable of fulfilling every useful purpose served by that remedy. We see every immediate effect of venesection to follow the administration of powerful purgatives, nauseants, and sedatives; we know that they rapidly diminish the quantity of the circulating fluid, reduce the force and frequency of the heart's action, and allay the general irritability produced by the local disorder; and why, then, should we, except under particular circumstances and for special reasons, such as those above-mentioned, subject our patients to the protracted debility, not to mention the possible danger, of general bloodletting? By administering in the first instance powerful and rapidly-acting purgatives, and then keeping the system for a time under the depressing influence of antimony or mercury, or using with these remedies still more direct sedatives, such as tobacco and digitalis, we may frequently obtain the beneficial effects, without encountering the disadvantages, resulting from a large loss of blood.

In making these observations, I am far from attempting to dispute the great value of a free use of the lancet in many cases of acute inflammation: I merely object to its indiscriminate employment in all forms of the disease, to its adoption as an item of routine practice. And the great evils attending a practical neglect or forgetfulness of the previous existence and operation, in many individuals, of various debilitating causes, such as poverty, residence in large towns or in unwholesome dwellings, sedentary occupations, dissipated habits, &c. may perhaps excuse and justify this brief allusion to the subject.

[To be continued.]

ANOTHER

CASE OF THE FATAL EFFECTS OF ETHER IN OPERATIONS.

By J. WILLOTT EASTMENT, Esq. M.R.C.S.

ALTHOUGH my communication does not convey a satisfactory report of the effects of the inhalation of ether, which is now held up, both by the profession and the public, as a certain and safe means of alleviating suffering, under painful operations, I shall be much obliged by your inserting it. It is pleasing to our self-esteem, and perhaps advantageous to our reputation, to report successful cases: it may be quite the reverse with those which are unfavourable, yet I hold it is our duty to report them, when, as at present, they involve a very important question, and when adverse symptoms may prove a valuable beacon to direct our judgments to a safer and better course in future.

I will first state my experience of the effects of ether, in an experiment on an animal, and make it an introduction to an operation on a patient. A lady in the country consulted me about a very large scirrhus tumor on the side of a favourite Newfoundland dog. As it occurred to me the case would afford an excellent opportunity of trying the effects of the inhalation of ether, I undertook to operate, and the dog (the largest and most savage one I ever saw) was brought to my house by the keeper. It was put under the decided effects of ether in about six minutes, and so completely was its savage character subdued, that my partner, Dr. Surrage, had not the slightest difficulty or resistance whilst operating on a mass, with an immense base, and which required a dissection of fifteen minutes' duration. Once during the operation the dog appeared to suffer, but it was instantly quieted by a second application of the ether for about a minute. The operation completely succeeded. We were delighted with its result, and felt highly gratified with a discovery which promised to make operative surgery mild and harmless, instead of being, as it is at present, the terror of our patients. One circumstance, however, connected with the case must be mentioned.

Just after the operation began the dog was considerably convulsed, and I made the remark that I should not like to employ ether in apoplectic subjects, or where I suspected any obstruction to exist in the circulation, either about the heart or lungs. But notwithstanding this objection, I felt anxious to try it again, and in the course of a few days an opportunity of my doing so occurred, of which the following is the history:—

Albin Burditt, of Silton, aged 11 years, became entangled about 8 A.M. on the 23d of February, in the machinery of a mill, in consequence of which he sustained a very severe compound fracture of the left thigh, with great laceration of the soft parts, and a simple fracture of the right thigh. Mr. Newman, of Mere, a very able and experienced surgeon, saw the patient soon after the accident, and with the concurrence of another surgeon, Mr. Rumsey, determined on amputating the limb as soon as the patient had recovered from the shock of the accident. I was requested to be present at the operation. Saw the case at 4 P.M., and instantly agreed in opinion, as to the necessity of an operation, with the other surgeons, who had been in constant attendance on the boy throughout the day. We did not, at this time, entertain any fears of the patient's death, either from the injuries sustained, or the intended operation. The nervous system had certainly received a great shock, but as there had been but a trifling loss of blood,—as considerable reaction had been established,—as no vital organ had apparently been injured,—as the boy was quite sensible, and had shown great fortitude and patience under his severe sufferings, we all considered there was sufficient vital force in his system to support him under the operation. The question now arose, whether the inhalation of ether should be employed? After mature consideration we determined it should, and that we would use the apparatus we had at hand. As soon as the patient was brought under its influence, which was the case in about three or four minutes, Mr. Newman operated with his usual skill and judgment, but the patient's sufferings, on making the circular incision, were so severe, that the intelligent and humane clergyman of the parish, Mr.

Martin, who personally waited on the boy throughout the operation, remarked that the remedy was quite a failure. The inhalation was now employed the second time for two or three minutes, and with decided benefit, as far as the entire suspension of suffering was involved, and the operation (in which the loss of blood was most trifling) was concluded. With its conclusion our difficulties and anxiety commenced, for our patient was in such a state of exhaustion and apparent intoxication that we soon considered his life to be in danger: and our fears were but too fully realised, for in defiance of all the watchful attention it was in our united power to pay, he sank in less than three hours after the operation. The state of the brain during this period was peculiarly distressing. There were alternate manifestations of excitement and depression of the sensorial powers; at one time resembling delirium, at another like approaching syncope, and again like violent intoxication, and these alternate conditions continued until the poor boy died.

On a review of the above case, I am not only induced to consider that the inhalation of ether partially failed in suspending pain, but I also attribute the death of the patient to its narcotising effects on a nervous system, previously depressed by great and extensive injuries. There is no doubt, from the ample reports of the successful effects of ether, that it deserves to be ranked as a great boon to our patients, in relieving their minds as well as bodies under severe operations, but I contend that great care is necessary in the selection of proper cases for its employment; and were I about to undergo an operation myself, I would infinitely prefer any amount of pain than suffer the drunken stupefaction occasioned by the inhalation of ether. I may be obliged to try the effects of this valuable, but at the same time dangerous, discovery on my patients, in accordance with the strong sense of public opinion in its favour, but I will always premise that it cannot be safe in the cases of young subjects, where the dangerous tendency and risk at all times of giving narcotics is well known; that it is inadmissible in old subjects, and where there is any reason to suspect imperfect organisation in

any vital organ: and lastly, that it must be attended with danger, in cases where patients have sustained violent injuries to the frame.

I have seen an account of the successful amputation of both legs two or three hours after the injuries were sustained on the Eastern Counties' Railway, where Mr. Curling, of the London Hospital, operated, but the subject of the operation was a healthy man, 23 years of age.

Wincanton, Somersetshire.

ON A
SOURCE OF FALLACY IN TESTING
THE URINE FOR SUGAR.

By G. OWEN REES, M.D. F.R.S.

Assistant Physician to Guy's Hospital, and Principal Medical Officer to the Pentonville Prison.

THE many sources of fallacy connected with the examination of the urine are not, perhaps, so fully recognised by the profession as they ought to be.

These fallacies, inasmuch as they interfere with a due appreciation of symptoms, tend seriously to affect the correctness of diagnosis in urinary affections; and I therefore think it well to publish from time to time such facts as may come under my notice in relation to the subject.

A short time ago I received a specimen of urine said to contain both albumen and sugar in considerable quantity. The presence of sugar had been determined to the entire satisfaction of the medical attendant, who had demonstrated it to some friends, who had become equally well satisfied on the point. On examination, however, though I found albumen in abundance, I could not detect the slightest indication of sugar, notwithstanding that I used the same specimen of urine from which others had obtained satisfactory evidence.

On relating the result of my examination to my friend, from whose patient the urine had been obtained, I received an exact account of the manner in which sugar had been sought for, and was shewn the effect produced in the specimen by boiling with a solution of caustic potash—the excellent test proposed by Mr. Moore. I now perceived the whole contents of the

tube of a deep brown colour, and should have been somewhat shaken in the fidelity of my own observation, had I not on a previous occasion applied this same test to the specimen, with a negative result.

I now observed that the liquor potassæ which had given the reaction had been kept in a white glass bottle, and immediately suspected that it might consequently contain lead; and that the dark colour produced, generally known as indicating the presence of sugar, might in this case be owing to the formation of sulphuret of lead; for the lead dissolved in the liquor potassæ would unite to the sulphur of the albumen during the boiling, and I had satisfactorily ascertained the presence of albumen in this urine.

The liquor potassæ with which I had obtained a negative result was free from lead. On testing that of my friend, however, with hydro-sulphuret of ammonia, the black sulphuret of lead was thrown down in considerable quantity, shewing the correctness of the foregoing explanation.

It is very important that this source of fallacy should be borne in mind, as Mr. Moore's test is very much used for ascertaining the existence of diabetes mellitus; and liquor potassæ is unfortunately too often kept in white glass bottles, instead of in those of green glass, which contain no lead in their composition on which the alkali can exercise a solvent action. The hydro-sulphuret of ammonia, applied as above described, will at once shew the practitioner whether or not his liquor potassæ be free from lead, in which case it produces no change of colour on being boiled with urine, even when albumen is present in large proportions.

59, Guildford Street, Russell Square,
April 3, 1847.

EPIDEMIC MENINGITIS AT STRASBURG.

AN epidemic meningitis has recently shewn itself among the recruits in the Military Hospital of Strasburg. More than twenty-five are at present affected with this disease, which appears to be exceedingly fatal. The attack is sudden, and the duration variable, the patient dying, in some cases, in eight or ten hours.

MEDICAL GAZETTE.

FRIDAY, APRIL 9, 1847.

AMONG the events of the week, of interest to the medical profession, we may notice the introduction of the Health of Towns' Bill into the House of Commons by Lord Morpeth. The noble Lord based the necessity of a great measure of sanitary reform at the present time upon facts with which most of our readers must be more or less acquainted. The statistical results obtained through the examination of many scientific witnesses by the Sanitary Commission issued in 1843, shewed that the evils which it was proposed to remedy by legislation were of a most serious and extensive kind. It was therefore fortunate that all political parties agreed in the propriety of legislating for their removal, and had contributed alike to the progress of the measure; hence, if sanitary reform became ultimately embodied in a great legislative measure, the merit of having contributed to so desirable an end could not be monopolized by any one party in the state, but must be divided among several successive Governments and among different parties. It was proved that in the metropolis, and in all great towns, the mortality was excessively high, compared with that which prevailed in country districts, and that this *excess* of mortality was really due to the prevalence of diseases arising from causes which might be removed by sanitary legislation. From the evidence collected by the Health of Towns' Commission, we have the following facts regarding the relative mortality in town and country districts:—

Population to the square mile, country, 199; town, 5,100. Annual deaths in 1,000,000, country, 19,300;

town, 27,073; annual excess in town districts, 7,773. Rate of mortality, country, 1 in 52; town, 1 in 37. The further particulars as to the rate of mortality generally were:—England, 1 in 45; Isle of Wight, 1 in 58; Anglesea, 1 in 62; London, 1 in 39; Leeds and Birmingham, 1 in 37; Sheffield, 1 in 33; Bristol, 1 in 32; Manchester (Union), 1 in 30; Liverpool (parish), 1 in 29. Thus, the inhabitants of London, compared with England at large, lost 8 years of their lives; of Liverpool, 19. The population of large towns in England being 4,000,000, the annual loss was between 31,000 and 32,000. But all towns were not necessarily so unhealthy, as appeared by the following statement:—Liverpool, deaths per 1000, 35; Manchester, 32; Bath, Coventry, Derby, Dudley, Shrewsbury, and Sunderland, 26; Carlisle and Norwich, 25; Tyne-mouth, 23; Halifax and Kidderminster, 21. Lord Ebrington, in his inquiries on the effect of high wages and good food, on mortality said—"That of the south-western district, which includes Cornwall, Devon, Somerset, Dorset, and Wilts, is only 1 in 52, not 2 per cent., while that of the north-western, including Cheshire and Lancashire, is 1 in 37. Now let it not be said that this is owing to extreme poverty and want of the necessaries of life: the condition of the labourers of the west, the badness of their dwellings, the lowness of their wages, the consequent scantiness of their food and clothing, have been the subject of public animadversion. With the exception of the Cornish miners, the condition of the labourers throughout the western counties is described as nearly the same; yet in Wiltshire, the county of lowest wages, the deaths are 1 in 49; in Lancashire, 1 in 36. The average age at death in 1841 was, in Wiltshire, 35 years; in Lancashire, 22. The following was Dr. Guy's statement of diseases which occasioned the excessive mortality of large towns:—Deaths in 1,000,000 from small-pox, country, 500; town, above 1,000; from measles, country, 350; town, 900; scarlet fever, country, 500; town, 1,000; typhus, country, 1,000; town, 1,250; epidemic and contagious disorders together, country, 3,400; town, 6,000. Waste of life in towns under this head, 2,600 a year. Diseases of infants.—Teething,

convulsions, water in the head, country, 1,300; town, 3,500. Waste of infant life under this head, 2,200 a year. Scrofulous diseases and consumptions, country, 3,800; town, 4,600. Total excess of deaths, 5,500 in the million. So that there was a waste of 22,000 lives in the 4,000,000 inhabiting large towns. Dr. Guy also said, that "The total number of deaths in England and Wales during the year 1841 was 343,847, or somewhat less than 1,000 a day. Now, this is at the rate of one death in 46 inhabitants. But if instead of one death in 46 inhabitants there had been one death in 50 inhabitants, or 2 per cent., no less than 25,407 lives would have been saved. Now, all men who have paid any attention to this subject, agree in the opinion that, by proper sanitary measures, it is possible to insure such a state of health among the community at large that the mortality shall not exceed that proportion. If the sanitary state of the entire country could be raised to the condition of the most healthy counties, so that instead of one death in 46 inhabitants there should be only one death in 54, we should have an annual saving of no less than 49,349 lives, or about one-seventh of the whole number of deaths! At first sight it may appear extravagant to represent such an improvement of our sanitary condition as possible; but when it is recollected that, on the one hand, even our most agricultural counties have not yet attained to their best sanitary state, and that our large towns have been hitherto almost entirely neglected, and admit of immense improvement, the attainment for the whole country of a sanitary condition represented by one death in 54 inhabitants is at least within the bounds of possibility." Dr. Southwood Smith said:—"In some localities there was not a single house in which fever had not prevailed, and in some cases not a single room in a single house in which there had not been fever. The districts in which fever prevails are as familiar to the physicians of the Fever Hospital as their own names. In every district in which fever returns frequently and prevails extensively, there is uniformly bad sewerage, a bad supply of water, a bad supply of scavengers, and a consequent accumulation of filth; and I have observed

this to be so uniformly and generally the case, that I have been accustomed to express the fact in this way: if you trace down the fever districts on a map, and then compare that map with the map of the Commissioners of Sewers, you will find that wherever the Commissioners of Sewers have not been, there fever is prevalent, and, on the contrary, wherever they have been, there fever is comparatively absent. Some idea may be formed of the evils which our negligence in the matter of sewerage and drainage inflicts, when I tell you that the annual deaths from typhus fever amount to 16,000, and the attacks of this loathsome disease to between 150,000 and 200,000." Further still, Dr. Lyon Playfair calculates, that for every unnecessary death there are 28 cases of unnecessary sickness; consequently, in our large towns, above 700,000 cases of unnecessary sickness. The same calculation in the metropolis would save 10,000 deaths, and 250,000 cases of unnecessary sickness. But were all parts of our large towns equally unhealthy? In one of the reports of the Registrar-General it was stated that the metropolis is divided into three groups of 10 districts each, under the title of the healthiest, the medium, and the most unhealthy districts. The result was as follows:—10 healthiest, with an allowance of 202 square yards to each person, have a mortality of 1 in 49; 10 medium, with an allowance of 102 square yards to each person, leaves a mortality of 1 in 41; 10 unhealthiest, with an allowance of 32 square yards to each person, leaves a mortality of 1 in 36. The Rev. Mr. Clay, of Preston, makes four classes of streets:—Well conditioned, mortality among children under 1 year, 15 in 100; moderately, 21 in 100; ill, 30 in 100; worst, 44 in 100, or three times as much as the first; and it appeared from tables prepared by Mr. Chadwick, that in St. George's, Hanover Square, the average age at which the gentry die is 45; labourers, 27; St. Giles's and St. George's, Bloomsbury—gentry, 40; Liverpool, working class, 17. Now the documents of most authority on this subject were the quarterly returns of the health and mortality made up from 115 districts of England by the Registrar-General for the quarter ending June 30, 1846. From this report

it appeared that 43,582 deaths were registered in the spring quarter ending June 30; a number greater by 2,853 than were registered in the corresponding quarter of 1845; and 4,731 more than in the June quarter of 1844. If the mortality had not been higher in the towns than in the poor country districts, where the air is pure, the deaths in the quarter would not have exceeded 33,000. Within the last three months 10,000 lives have been destroyed in a part only of England by causes which there was every reason to believe might be removed. The report went on to say, that "the inadequate supplies of water by companies, the imperfect sewerage in towns, the open drains and ditches, and the general neglect of cleanliness, leave everywhere great quantities of organic matter to decay and putrefy in the midst of crowded populations. In such circumstances the mortality, like putrefaction, is always increased when the temperature is high; and epidemics of diarrhoea, dysentery, and cholera, prevail. Many thousands of the people of England were carried off in the last quarter by these diseases, and others of the zymotic class. In the metropolis the deaths at the close of June from diarrhoea, dysentery, and common cholera, rose to 40 weekly. Nor is that to be wondered at. Notwithstanding the improvements effected when cholera was last epidemic, the foul untrapped sewers, and the ground areas of the best streets, emit noisome smells and volatile poisons, which are as fatal as arsenic to a certain number of persons. London is surrounded, too, by stagnant, putrid ditches, as some cities are by walls. It would be well not to wait carelessly until cholera reaches the country, but to 'look before,' remove these nuisances, and purify the reeking atmosphere, which gives the disease breath, life, and being. These remarks apply with tenfold force to Liverpool, Sheffield, and the towns of the north, where the epidemics in the last quarter were more fatal than they had ever been before, and diseases were, in proportion to the population, at least one-third part more numerous than in London."

Such is the medical foundation of the great sanitary reform measure of Lord

Morpeth. It would appear from it that there are causes operating to increase the rate of mortality, wholly independent of poverty and of the want of the necessaries of life; and it is impossible to deny that many of these causes are of a preventible nature. At the same time, it will, we think, be apparent that a case is made out for including in the bill not merely towns, but villages and rural districts; and we are glad to find from a subsequent part of the statement of the noble Lord, that there will be no limitation to the application of the principles of this measure throughout England and Wales. Even the great metropolis, which was excluded under the Sanitary Bill of the late Government, is very properly included in that of Lord Morpeth, and a suggestion was made that no time should be lost in enacting similar measures for Ireland and Scotland.

We have at present only one remark to make on the medical statement of Lord Morpeth. We believe that there is, and probably always will be, some difference in the rate of mortality between the populations of town and country, as well as between those of different towns, according to locality, relative numbers, and other circumstances, which no law can affect, except by the removal of the town and the dispersion of its inhabitants; but we think that the comparison of the rate of mortality as it is given in the statement is liable to a fallacy which must seriously affect the results. It is no answer to say that it is the best that can be made; what we contend is, that it does not represent the truth, since it confounds infantile with adult mortality, and takes no account of the relative number of children, among whom the mortality is always proportionally greater, both in oppidan and rural populations. The statement informs us that the mortality is yearly:—

In the country . . .	1 in 52
— London . . .	1 in 39
— Manchester . . .	1 in 30
— Liverpool . . .	1 in 29
— All England . . .	1 in 45

and we are then told that the inhabitant of each place loses so many years of his life as are equal to the difference between the rate of mortality for England and the place where he resides. These numbers, we presume, are obtained in the usual way, by dividing the total population by the total deaths; but results are thus procured which, unless it be assumed that the number of children under five or ten years of age is everywhere equal; and that the number of deaths among children and adults is precisely similar, must lead to considerable fallacy,—exaggerating the mortality in some instances, and reducing it below its true standard in others.

In determining the comparative salubrity of a place from the rate of mortality, it is always of great importance to consider the relative numbers of the population at different ages. The last report of the Registrar-General fur-

nishes us with some data which will throw a little light upon this subject. In this report we have, for the county of Kent, the ages of the population living at all periods, from one year to one hundred years,* based on the census of 1841. In another part of the report† we have the ages at death of the population, from one month to one hundred years, for the year 1840. The population would have made a slight advance in the year, but with this exception, probably unimportant as it affects large results, the relative number of deaths at different ages will admit of a fair comparison for our purpose. We gather from this report that the number of persons (males and females) living at all ages amounted to 461,123, of whom there were *at* and under ten years of age 170,428. The deaths under ten years of age were 4,455, giving a ratio of one in thirty-eight.‡ The numbers living, between ten and one hundred years, amounted to 290,695, and the deaths *above* ten and under one hundred years were 6,808, making a ratio of one in forty-two, or, as a summary :—

	Deaths under ten years.	Ratio of mortality.
Living at and under ten years, . . .	170,428 4,455	1 in 38
	Deaths above ten and under one hundred.	
Living above ten and under one hundred,	290,695 6,808	1 in 42

It is here apparent that the deaths under ten years in this *rural* population, are to those of persons above that age as 4,455: 6,808—i.e. 1: 1.5 or 2:3. We have not the means of comparing the infantile and adult population of towns either as to the relative numbers living or dying; but we should probably find that in crowded towns, where the mortality appears to be excessively high, there would be a much larger proportion of young children; and thus, from the higher rate of mortality among them, independently of that which may be fairly ascribed to the want of sanitary mea-

sures, the excessive differences recorded to exist among towns might admit of explanation. We do not make these remarks for the purpose of showing that the interference of the legislature is not needed: on the contrary, we consider that it will be a great benefit to the whole country to have a comprehensive sanitary measure; but our object is to point out what appears to us to be in the outset a fallacy in the figures. Some towns

* Page 34, Appendix, Seventh Annual Report.

† Page 60.

‡ The deaths *at* ten years are not stated; with them, probably, the ratio of mortality would be increased.

are, we believe, much more healthy, and others less healthy, than they have been returned to us by medical statisticians. We cannot arrive at a true ratio of mortality by adding together extremes, when we have no knowledge of the relative numbers from which these extremes are deduced. It would be as preposterous to attempt to determine the average stature of the inhabitants of a town by making a sum total of the stature of each individual, and dividing by the number of inhabitants. In a town with a large infantile population, we should arrive at a conclusion that the inhabitants were all pigmies, and in one with a small infantile population that they were all by comparison giants!

Our belief, therefore, is, that the saving of life by sanitary legislation, will not be so great as some advocates of this measure suppose; and that after it has become law, the inhabitant of London will not add to his existence *nine* years, and the inhabitant of Liverpool *sixteen* years, as promised in the statement of the noble Lord! That all classes and all ages will benefit by the enactment of such a measure is unquestionable. Whatever difference may exist in the ratio of infantile and adult mortality, there can be no doubt that the former increases greatly in crowded populations; and that the ill-ventilated and undrained quarters of our towns are the great foci of zymotic diseases—so destructive in the early periods of life. By the removal of these nuisances, although we may never prevent a greater proportionate mortality among children, we shall reduce the number of deaths, so far as it lies in human power, to a minimum; and thus accomplish all that can be reasonably expected from legislation. In order to bring it to that very desirable, but we believe unattainable end, of reducing

the deaths in the entire country to 1 in 54 from 1 in 45 (as they are at present), and thus saving 49,349 lives per annum, or one-seventh of the whole number of deaths, we see no other plan than that of putting a stop to the number of births. No legislation can confer upon the infant frame that power of resisting disease which is naturally acquired after the age of adolescence and during the period of manhood. While exerting ourselves, therefore, to avert admitted evils, it would be unwise to look for impracticable results.

We have here only taken for consideration the medical basis of this important measure: we shall return to the details hereafter.

In a recent number* we stated that the Lord Chancellor had adopted the very unusual course of ordering the suppression of a Lunatic asylum in the County of York, on the recommendation of the Commissioners who granted the license. We learn on good authority that the license was withdrawn in consequence of one of the patients having died by the hand of another. This case appears to show that the provisions of the new Lunacy Acts will be carried out with the greatest rigour. We presume that, in the opinion of the Commissioners, the death of the patient would not have occurred under such lamentable circumstances but for the want of proper control on the part of the managers. We are further informed that the proprietor of the suppressed asylum, who was formerly an attendant at the York Retreat, had negotiated with a surgeon of York for the transference of the asylum to him; but the Commissioners have hesitated to sanction the renewal of the license on the application of

the new proprietor. This case should serve as a caution to the keepers of all Lunatic Asylums throughout England and Wales.

Reviews.

On the Pathology and Treatment of Scrofula; being the Fothergillian Prize Essay, for 1846. By ROBERT MORTIMER GLOVER, M.D. Lecturer on Materia Medica in the Newcastle Medical School. 8vo. pp. 315. London: Churchill. 1846.

THE unfailing principle of "ars longa" has never been more completely exemplified than in the history of medical speculations on scrofula and its allied diseases. The amount of loose speculation, idle discussion, and unsatisfactory contention, added to the abundance of gross superstition which has encumbered the literature of this subject up to a comparatively very recent period, can only be appreciated by those who have laboriously sifted the cumbrous lucubrations of our predecessors in the hope of gathering from them the few precious fragments of substantial truth which, in a larger or smaller proportion, they nearly all contain. Thousands of pages have been written on the subject of scrofula; from year to year many absurd prejudices which had hitherto clouded the subject have been exposed and cast aside, and gradually our improved system of cautious observation and inductive reasoning has established a certain amount of elementary facts which promise to aid us in our future investigations of this obscure constitutional disease. Still, it scarcely even requires such a work as that now before us (in which nearly all the well-authenticated facts of the subject are judiciously arranged, and in which the important points of investigation still remaining unsolved are distinctly stated) to prove that in this as in most other pathological questions we still halt upon the very threshold of the great inquiry. And this is evidently due to the fact which, distasteful as it is, cannot be too conspicuously or too constantly held forth, that we have been too long content to receive facts upon the erring authority of others

without possessing sufficient interest and energy to attempt the obviously necessary task of reasoning and observing for ourselves.

It is principally to the publication of the facts, collected and original, which have been set forth by Canstatt, Lugol, Mr. Phillips, Dr. Tyler Smith, and a host of other investigators of various details of the subject, that the present knowledge of medical men respecting this involved question is due: and we are happy to be able to say that the work of Dr. Glover is well calculated to add weight to the more reasonable views of former writers on the subject, and also to direct the course of future inquiry.

Dr. Glover's treatise is principally composed of carefully selected and arranged passages from the works of previous writers on scrofula; to which are appended brief, but comprehensive, remarks elicited by the author's own reasonings and experience of the subject, together with the results of a very considerable number of original chemical experiments and clinical investigations. The following extract will best display the scope and objects of Dr. Glover's work:—

"I. We shall commence by a description of scrofulous matter or tubercle, avoiding as much as possible all deductions from the facts stated.

"II. Then shall follow the humoral pathology of the disease, similarly treated.

"III. The description of the scrofulous diathesis.

"IV. The comparative pathology of scrofula.

"V. The identity of scrofula and internal tuberculosis.

"VI. The essential nature of the disease.

"VII. The etiology of scrofula.

"VIII. The localization, modifications, and complications of the disease."

The second part is devoted to the treatment of scrofula.

It must of course not be supposed that the essay by any means contains full expositions of all or any of the above knotty questions, but still we feel as we read that the author has to a certain degree advanced and elucidated the subject.

We have selected the following extracts as fair specimens of the work:—

"Our own observations have been made with powers of four hundred, and six hundred and ten diameters, and on tubercles

from the lungs, heart, spleen, renal capsules, kidneys, and bladder, and on tuberculated, mesenteric, bronchial, and cervical glands. The ordinary element of tubercle, present in all the forms which we have examined, and scarcely different in one form from what it is in another, is the granular corpuscle observed by several writers. Many tubercular masses are composed almost wholly of this matter, which varies in size from about the bulk of a blood-globule to about perhaps the 1-10,000th of an inch in diameter. These corpuscles are generally of a somewhat yellowish colour, and when magnified by the highest power which we have used (610 diameters) show occasionally spots in their substance which may possibly in some cases be nuclei. Mixed with these, which we believe to be in some instances altered cells, in other cases new formations, we have the following elements:—1st. Epithelial scales, variously altered, observed in lung tubercle. 2d. Fat globules. 3d. Crystals of salts. 4th. Portions of destroyed tissues which sometimes assume singular shapes. 5th. Cells which also appear to belong to the old tissues. 6th. Large granular and corpuscular masses of the most irregular forms. Besides the various kinds of corpuscles we find in tubercles a countless number of granules of small size. In tubercles from various seats, then, we can discover no essential difference in constitution; and a marked discrepancy exists between cellular and fibrous growths arising from normal inflammation on the one hand, and tubercle, and again between this formation and the various parasitic growths on the other hand" (pp. 49-51). (The volume contains several well-executed steel-engravings illustrative of these and other points in the morbid anatomy of tubercular deposits.)

The following passage contains the principal general conclusions which Dr. Glover has arrived at with regard to the chemical composition of tubercular matter:—

"1st. The results of the chemical analysis of tubercle, and its after products, of scrofulous bones, &c., although they may not as yet warrant very decisive conclusions, yet furnish some useful information, which will be found to bear upon the pathological propositions advanced" (in this work) "concerning the essential nature of scrofulous and tubercular affections.

"Thus the large quantity of fat and extractive matters in tubercle has a direct bearing upon the theory supported by many of the advocates of cod-liver oil in the treatment of these diseases. The existence of pyin is important, and could we be sure of that of casein in quantity, we might to a

certain extent explain the anorganizability of tubercle. But we have never been able to satisfy ourselves that the protein constituent of tubercle, as examined by us, approaches much nearer to casein than to albumen. Nevertheless, the researches of Preuss, Boudet, Scherer, and others, must be held decisive of the existence, at least in some cases, of casein; although the last-named observer is far from confirming former writers in the statement of a large proportion of tubercle matter being composed of this substance. We have made other examinations for casein than those recorded, and have never been able to detect its presence. Whoever considers the very doubtful power of the tests which we possess for distinguishing these different substances in the animal body will be very doubtful of the protein basis of tubercle. Nevertheless, we may perhaps conclude that there is great probability of this protein compound having a certain approach to casein, or, at least, a portion of it exhibiting a tendency to take on the characters of this latter substance.

"2d. The ultimate analyses which have been made can lead to no very definite conclusion, although Scherer infers from a comparison of his formulas of lung and liver tubercle, that the difference which exists between them may arise from the substance in the latter situation being less exposed to the air. Thus he says—making the azote the fixed quantity, we have—

The lung-tubercle, $C_{42} H_{70} N_{12} O_{12}$
The liver-tubercle, $C_{45} H_{72} N_{12} O_{12}$,

showing an excess of carbon and hydrogen.

"Our analysis would give to the protein compound of tubercle a much smaller percentage of azote in general than those of Scherer; only 12.31. In the first analysis of mesenteric tubercle, the proportions of carbon and hydrogen show that the substance had been completely freed from fat. But when we find analyses of normal protein differing almost as much from the ordinary standard, what inference can we draw? Since we wrote as above, Liebig has called in question the protein theory, but the use of the word protein in this essay is not hypothetical; it is used to signify a basis of an albuminous, or, perhaps, partly caseous nature, which undoubtedly is at the bottom of the constitution of the greater part of tubercle.

"It does not, however, follow that these ultimate analyses are useless, because we cannot at present draw many inferences from them. We see at least the close approximation which they enable us to make between the basis of these morbid formations and protein compounds.

"3d. The analysis of the concretions

which we have made does not bear out in the least the statement of M. Boadet, which makes these bodies contain 70 per cent. of soluble salts. On the contrary, even in the tubercle which may be supposed to form a transition stage on the way towards the conversion into the calcareous substance, we find only about one-third of the ash composed of double salts; and in the perfect concretion there was merely a portion of these substances. In this respect our results agree with those of Scherer and Mulder.

"A doubt has arisen whether these concretions should be regarded as the remains of absorbed tubercle; and this doubt is supported by Rayer, who maintains them to be often the residue of pus. The presence of these concretions may not improbably serve to attract towards them, once formed, more osseous matter.

Scrofulous pus appears to differ from ordinary pus, chiefly in the fluid part being thinner, and mixed with albuminous granules proceeding from a decomposition of scrofulous or tuberculous matter. The pus globules appear also, as stated by Mr. Guiliver, to be fewer and less distinct than in healthy pus. We have found them also more irregular in their form." p. 86.

The remarks on the chemical condition of the blood, bile, lymph, and chyle, in scrofula, contained in the second chapter, are well deserving of attention, but they would suffer from abridgment. The author's analyses do not show any particular affection of the urine in scrofula, unless when, as in Case 8, there is a long-continued exhaustion.

Dr. Glover is opposed to all those writers who argue that scrofulous and tubercular diseases are not identical in their characters.

"The only difference which he has been able to detect by the microscope between tubercular and the degenerated substance of scrofulous glands, is the existence of a greater number of bodies presenting the appearance of thickened and translucent or opaque cells in the latter case. But the microscopic elements are in both instances the same. The results of chemical analysis likewise fail in establishing any essential difference; on the contrary, so far as they allow inferences to be drawn, they would tend to point out the identity of the two kinds of formation. A similar state of the blood and other fluids of the body, of the secretions and excretions, similar causes and diatheses, as we believe, characterise scrofula and tubercle: these diseases are frequently united in the same person, or in the same family, pass through

phases strikingly analogous, and are relieved generally by the same modes of treatment." p. 163.

The definition of scrofula proposed by Dr. Glover is as follows:—

"Scrofula is (speaking of the actual diseased process, not of the diathesis) a peculiar modification of inflammation, whereby the usual, or, as they may be termed, the normal products of this process are not evolved, but instead of them, other materials incapable of passing into the regular cell forms, and which constitute the substance already described under the name of scrofulous or tuberculous matter. The peculiarity of this formation, and the continuance of the scrofulous diathesis, are the causes of the characters assumed by the various after-processes which result from the existence of tubercle." p. 180.

The observations on treatment are judicious, but do not very materially advance the previous knowledge of the subject. Upon the whole, it is long since we have read a more carefully written work, or one less encumbered by unnecessary details. It is very far superior to the ordinary run of prize essays, and we cordially recommend its perusal to our readers.

Medicines, their Uses and Mode of Administration: including a Conspectus of the three British Pharmacopæias.
By J. M. NELIGAN, M.D. Ed. &c.
2d edition, 8vo. pp. 485. Dublin: Fannin and Co.

The first edition of this work, which is better known in Ireland than in England, was very favourably received by the profession. It is published in a very unpretending form, and occupies an intermediate position between the elaborate treatises and the smaller manuals on the same subject. The author has evidently studied conciseness, but he has throughout treated the subject systematically. The articles which we have examined appear to be written with great care, and a very copious index is attached, so that the student or practitioner can immediately refer to any substance the properties or doses of which he may require to know. The only fault we have to find is, that some of the articles are rather short, thus giving to the work a synoptical character. The conspectus to the *Pharmacopæias* is good, and will be found most useful in practice.

Traité de Toxicologie Médico-Légale et de la Falsification des Aliments, des Boissons, et des Médicaments. Par M. C. P. Galtier, D.M.P. 1re. partie. *Poisons Inorganiques.* 8vo. pp. 760. Paris: Baillière, 1845.

THEY who are acquainted with Dr. Christison's treatise on Poisons will find in this volume most of his facts, cases, and conclusions in a French dress; on the whole it is a very respectable translation of selected portions of that well-known treatise. The author professes to have brought out an original work, but we have read it without finding any originality about it. The old cases of Orfila and Devergie appear interspersed with the English cases of Dr. Christison; and Professor Galtier sometimes gives a case forty years old, when a recent number of the *Annales D'Hygiène* would have furnished him with a more recent and better illustration. We do not deny that every writer on medical science has a perfect right to make use of the experience of his contemporaries; but it is only reasonable to expect that he should bring something to the common stock. We have in vain searched through the first volume of Dr. Galtier's treatise for any new additions to toxicological science. With the exception of three or four cases, there is nothing which the writer can claim as his own; and he does not even exercise an independent judgment on subjects on which there is great difference of opinion. To French medical students the work will be of little use, as they have already the excellent treatises of Orfila and Devergie; and with respect to English students, we think they will prefer Christison in English to Christison roughly done into French, especially as many of the English names, under the French mode of spelling, are beyond all powers of translation or even comprehension.

An Inquiry into the Action of Mercury on the Living Body. By JOSEPH SWAN. 8vo. pamphlet, pp. 34. 3d. edition. London: Longman and Co. 1847.

THIS monograph is a reprint of part of a work published by Mr. Swan many years ago. The experiments bear date a quarter of a century back. The

author, who has long been favourably known to the profession by his researches on the nervous system, considers, from the results of the exhibition of mercury in various forms to animals, that its primary action is on the nerves, and that it especially affects the ganglia of the sympathetic. The sanguiferous system is only indirectly influenced. In his experiments he uniformly found the ganglia, and sometimes the par vagum, inflamed. The condition of the ganglia in persons who have died while under the influence of mercury has probably escaped notice: according to Mr. Swan, they will be uniformly found, if not actually inflamed, more or less reddened, as if from irritation approaching to a state of inflammation. The action of mercury on the salivary glands he ascribes to its effects on the superior cervical ganglion, the branches of which accompany all the branches of the external carotid artery. From the results of one experiment, it would appear that arsenic, like mercury, has a direct action on the sympathetic nerve.

A Detail of Experiments proving the Identity of Cow-Pox and Small Pox. By JOHN BADCOCK, Chemist, Brighton. Pamphlet, pp. 48. Brighton: King. 1845.

MR. BADCOCK details in this pamphlet certain experiments which, like those performed by Dr. Sonderland, of Bremen, and Mr. Ceely, of Aylesbury, tend to show that human small-pox applied to the cow, produces in this animal the true vaccine disease which protects the human body from small-pox. Having imparted the infection to a cow, he caused one of his own children to be inoculated with the lymph obtained from the animal. The result was, that good vaccine vesicles were produced in the child without any undue constitutional disturbance. In this and other cases the results were perfectly successful. Mr. Badcock therefore advocates this plan of renewing the vaccine virus, when, by frequent transmission through the human subject, it appears to have lost its original protective power. It is creditable to find one not of the medical profession devoting himself in a right way to the prosecution of such important inquiries.

Proceedings of Societies.

ROYAL COLLEGE OF CHEMISTRY.

A LARGE assemblage of gentlemen, supporters of this important Institution, was held in the rooms of the College in Hanover Square, on Wednesday evening, the 31st ult., WILLIAM EWART, Esq. M.P. in the Chair, when an interesting lecture was delivered by Mr. Warrington on the History and Art of Calico-printing, and on the direct bearings of chemistry on this important branch of manufacture.

Mr. WARRINGTON commenced by stating that his principal design in bringing this subject before the members of the College was to demonstrate the bearings of the science of chemistry on one of the large manufactures of this country; and that he hoped the example would be followed by others, and thus a course of demonstration be brought home to their minds, and the full value of the Institution felt and acknowledged.

The Lecturer then gave a sketch of the antiquity and progress of the art of calico-printing, followed by a practical exposition of the beautiful effects in colours produced by madder on cotton fabrics in the Turkey red, madder-pink, and purples. The Manganese brown, or bronze, and the varied effects produced on this ground by chemical reagents, were also shown; together with some striking phenomena, produced by indigo blue.

The Lecturer closed his remarks by explaining the objects of the Institution, and by an appeal to teachers and students that much would be expected from them, and therefore it was necessary that great exertions should be made, not only while they were in the College, but also when thrown on their own resources.

Amongst the members present, were Lord Newry, Sir John Guest, Bart. M.P., Wm. Beckett, M.P., Sir James Clark, Bart., Mr. Brande, Dr. Arnott, Dr. Bevan, Dr. Charles Holland and Dr. Grant.

[A proposition has been made for the union of the Royal College of Chemistry with the Chemical Society. If such a union could be brought about, we have no doubt that the united Institution would prosper. The friends of the Society would aid the progress of the College; and the College itself would be well adapted for the meetings of a Society devoted to the advancement of the science of chemistry. We do not believe that any petty feeling of rivalry or competition would be found to interfere with such an arrangement, and we have no doubt

that many subscribers who now contribute to both the institutions, would most willingly continue these subscriptions when the two were united.]

MEDICAL SOCIETY OF LONDON.

Monday, March 15th, 1847.

Mr. DENDY, President.

Nasal Tumor; false Aneurism.

THE PRESIDENT stated, that the gentleman affected with bronchitis, whose case he had mentioned at a former meeting, was now quite well; there was no r le, and only a slight gleet.

Mr. LINNECAR related the following case:—A child five years old came under his notice, affected, to all appearance, with a polypus of the nose, all the symptoms of that disease being present. The upper part of the nose bulged out; and on looking into the right nostril, where appeared to be a polypus, the colour of the tumor was that of the Schneiderian membrane. This rapidly increased in size until it came to the level of the ala on that side; and examination showed that the disease had begun in the left nostril also. All these symptoms supervened on a cold. On attempting to pass a probe round the root of the growth, it was found that the probe would not pass round the side next to the septum, but it did on the other side. There was a discharge of mucus and blood, and it was determined the next day to pull away the growth. The next morning, however, to his surprise, on examining the nose, all the swelling was gone. He had never seen a similar case. No matter had come away with the mucus and blood; there was no pain.

Mr. HILTON had seen cases of the formation of matter under the lining membrane of the septum of the nose, which he believed were not described in books. In these cases puncture was resorted to, and relieved. He considered Mr. Linnecar's case was somewhat of that character. With respect to the situation of the growth, he remarked that polypus of the septum of the nose was very rare; he had never seen one in that situation. It was evident that some communication existed between both sides of the tumor, or puncturing it on one side would not have evacuated both sides of the growth.

Mr. PILCHER questioned if cases like that related by Mr. Linnecar were uncommon. The cases referred to by Mr. Hilton were more rare. He had seen many cases similar to that first related. He believed that the fluid was not contained in a sac at all, was not an abscess, but simply a collection of serum or sero-fibrine infiltrated

into the sub-mucous tissue, occurring almost always in scrofulous children. These cases simulated to some extent polypus, but were removeable by astringents.

The PRESIDENT related the following case of

False Aneurism.

Mrs. T., of about the middle age, residing in the vicinity of London, consulted her surgeon on account of a severe chronic leprosis. Previous to her leaving his room, she requested him to lance a gum-boil on the right side of her mouth. On introducing his finger, he found a tense tumor, of the size of a thrush's egg, between the masseter muscle and the lower jaw. She complained of much pain on pressure; the tumor and adjacent tissues were hot, and the teeth were extremely tender. As she was anxious to return immediately to her country residence, he introduced a lancet through the tense tissue, which, on being withdrawn, was followed by an instantaneous jet of florid blood.

It was evident that this proceeded, not from an artery in a normal state, but, either from one in a state of ulceration, or other carious disease, or that an aneurismal sac had been opened. On introducing his finger, he found the cyst still more extensive than he had anticipated, and he could distinguish a throb. He at first believed that the facial, after it had mounted over the jaw, or its sub-mental branch, on the mylohyoid muscle, or the masseteric branch, might be the artery implicated, but the peculiar feel of the walls of the tumor led him to determine on its deeper and more important seat.

It would have been useless to have placed a ligature in the vicinity of branches so freely anastomosing, and as the attendant was anxious, of course, to avoid the more serious ligature of the carotid, he decided on dilating the aneurismal sac itself. He freely opened the sac, (which felt crisp, as if it were a fibrous or semi-cartilaginous degeneration of the periosteum or other tissues,) and then introduced lint, soaked in nitric acid, pressing it firmly to the bottom. The impetus of the blood, however, which was streaming in profusion, rendered it extremely difficult to lodge the pads of lint firmly. He at last filled the sac, and placed dry lint between the maxilla and the cheek, and applied firm external compression. About thirty ounces of arterial blood, he judged, were lost, and temporary faintness ensued. There was no subsequent recurrence of hemorrhage. The patient was kept cool and quiet, her diet consisting of barley-water, broth, and tea. She took salines and anodynes. The lint was firm until the fifth day, when the surgeon removed it cautiously, and with it one

of the molar teeth, and some minute spicules of bone. The granulations gradually filled the sac, and the action of the jaw, which he then learned had been much impeded, was restored.

Now he was aware that errors in diagnosis regarding these tumors have often been made; some are recorded by Vesalius, Ruysch, Dettaen, Richerand, &c. He had himself seen in one of our hospitals a large popliteal aneurism poulticed and condemned to the knife, and the femoral, subclavian, and even the common iliac, have been tied for supposed pulsating tumors in bone, or those in the vicinity of large trunks. The fault here recorded, however, was one of precipitancy, arising from locality, solidity, and want of distinct pulsation; but, above all, from the off-hand and confident request of the lady herself. The nature of the tumor had never formed a question in the surgeon's mind.

The statements and discussions regarding two late operations, and some remarks on aneurism in bone, by Mr. Toynbee, had rendered us alive to the subject of blood tumors in soft parts, and had revived his recollection of this unusual case.

On the etiology of the primary disease he was unable absolutely to decide. It could not be referred to unbedded contamination. Mercury had not been unguardedly administered, nor could it for a moment be suspected that syphilitic contamination was the cause. The disease was probably the development of latent taint or spontaneous morbid growth. The result proved it not to be highly malignant; and scrofula would rather attack the spongy tissue of bone; and strumous disease was unusual at the period of life which the patient had attained. The tissues in the vicinity of the maxilla certainly remained during the remainder of life (about five years) in a chronic, tumid, and somewhat painful condition, but without anything like corroding or phagedenic extension; and the centre of the ramus of the maxilla, which was removed after death, was enlarged, softened, and discoloured. He would refer it to a semi-fungoid degeneration of bone (though he feared he coined a term), its proximate cause, perhaps, being a varicose condition of the capillaries, rather than that the osseous degeneration was itself the effect of aneurismal pressure and frequent absorption. The result was a false aneurism in a fibro-cartilaginous or osseous blood cyst. He was not sure that modern surgery would (as a principle) approve of this mode of imitating those spontaneous obliterations of blood cyst by adhesion, or suppuration, or gangrene, recorded by Val-salva, Petit, Dessault, and others. The emergency of the case, however, rendered the plan adopted one almost of necessity,

and it was a redeeming point in the surgery that the aneurism itself was cured.

Considerable discussion took place on this case as to the nature of the disease, and the vessel implicated in the mischief. Various opinions were expressed by the members present.

Monday, March 22, 1847.

Mr. KELLOCK related a case of oedema of the glottis in which he performed the operation of laryngotomy. The case came under his notice only at the twelfth hour, and he was not fully acquainted with the previous history of the patient. The man had been brought to his surgery with a dislocation of the lower jaw, consequent upon efforts to vomit, probably arising from his attempts to get rid of the obstruction in the throat. The jaw was speedily reduced, but suffocation seemed so imminent, that Mr. Kellock immediately determined on opening the larynx. This was done by a sharp bistoury, and a common female catheter introduced into the air-passages. The man, however, immediately sunk.

Some conversation followed on the treatment of oedema of the glottis.

Monday, March 29, 1847.

Mr. BISHOP, in allusion to the discussion at the last meeting, said, that Troussseau and Baudelocque, in their work on Diseases of the Larynx, recommended the practice of passing a catheter into the larynx, through the glottis, as had been practised by Desault, in cases of oedema glottidis. Relief was sometimes afforded by this proceeding, from pressure, as was supposed, on the soft parts, making the aperture patent; by this means respiration was enabled to be carried on, and the necessity for tracheotomy was dispensed with.

Ether as a Remedy in Spasmodic Diseases.

Mr. HEADLAND inquired whether, in cases of obstinate and prolonged laryngismus stridulus, when all the usual means of treatment failed to afford relief, and when it was obvious that unless some amendment took place the patient must inevitably sink, any benefit was likely to ensue from the inhalation of ether. He threw out this question more as a suggestive hint than to recommend the treatment, and with the view of hearing the opinions of members on an agent of great power, and one which appeared likely might be of service in spasmodic diseases. In the case to which he had alluded, the little patient was seven months old, the child of parents in the higher station, and in an atmosphere which could not, by possibility, have an effect in prolonging or aggravating the complaint. There was no con-

dition of gums to warrant the opinion that teething had any influence on the disease, and the secretions were healthy. If the child presented any peculiar aspect, it was that of constitutional debility, a deficiency of power preventing the development of the teeth. The treatment pursued had been of the ordinary character in these cases—attention to the secretions, strict rules regarding diet (the child being brought up by hand), and the avoidance of all excitement. The disease, however, had continued to increase in severity, and the little patient had now as many as eight or nine attacks in a day. The nurse was warned of the approach of the convulsion by an attack of crying. Now, what would be the effect of allowing the child to inhale the vapour of ether by sprinkling a little of that agent on a towel or handkerchief, and holding it to the mouth and nose? He knew that ether had failed in trismus and tetanus, but he threw out this question for the purpose of eliciting discussion.

Dr. CHOWNZ inquired if, in the case related, the convulsion arose from spasm of the glottis, producing difficulty of breathing, or from some other cause. When it arose from such a spasm in the air-passage, the difficulty to the admission of air would bring on convulsion, and, under these circumstances, the administration of the ether would only make the quantity of air inspired less. If, however, the ether acted as an anti-spasmodic, then the glottis would be opened by its agency, and afford the patient time to respire. It had been found that in cases of irritable larynx and trachea, there was a difficulty in administering ether. We required further experience to determine the effects of ether generally, but more particularly on infants. He should be fearful of applying it in cases similar to the one detailed.

Mr. HEADLAND said, that in his case the convulsions evidently arose from spasm of the muscles of the larynx. What was to arrest that? It was evidently referable to some disturbance of the pneumogastric nerve; and in this extreme case all anti-spasmodics and other remedies had failed of affording relief. He was fully alive to the necessity for caution in such a proceeding, and stated his conviction that ether was at the present time too indiscriminately employed.

Dr. CHOWNZ believed that ether did not necessarily produce congestion of the brain; a state of collapse certainly sometimes followed its use, but he had neither observed stertorous breathing nor dilated pupil, though he had heard of the presence of such effects in some cases. In one instance a man certainly did appear to suffer from

fulness of blood in the head after inhaling ether.

Dr. RISDON BENNETT had seen little of ether; but, from what he had observed at St. Thomas's Hospital, it would appear, in some cases at least, to resemble in its effects the nitrous oxide, at first producing excitement, followed, as was usual with these agents, by a state of collapse. We were too ignorant, he thought, of the operation of ether at present, to employ it in convulsive diseases. Could we, or could we not, with safety try its effects in convulsive diseases, knowing its tendency occasionally to produce convulsions? It was an important subject, and deserved the attention of the profession.

Dr. CHOWNE had recommended the inhalation of ether in a case of whooping cough, as it had been stated that it had in some instances cut short the disease. It had been inhaled by holding to the nostrils a handkerchief sprinkled with ether.

Dr. BENNETT said that it would be more likely to be useful in whooping-cough than in laryngismus stridulus.

Dr. GARROD said that ether might be so exhibited as always to produce excitement. If inhaled from a bag into which ether had been put, it usually produced that state, followed soon by narcotism. Judging from the effects of alcohol on the young of animals, he thought that ether must be used to children with caution.

Mr. BISHOP said, that the question before the Society was one of importance. It was difficult to say in the present case what was the source of the irritation which, acting on the pneumogastric nerve, produced the convulsions. Any particles in the atmosphere which might irritate the superior laryngeal nerve were sufficient to produce the effect. Change of air had occasionally been of benefit in these cases; and a warm moist atmosphere was undoubtedly likely to be of service, from its preventing anything irritating the mucous membrane of the larynx.

Dr. CLUTTERBUCK considered that one of the greatest advantages which we should derive from the use of ether would be the power we should possess of bringing our remedies more directly to the organs of respiration when in a state of disease than now. Twenty years ago there was a great disposition in the profession to the administration of remedies by inhalation. Dr. Beddoes had found great advantage from the use of carbonic acid and other agents in this way. The plan had been since neglected, though it was undoubtedly the readiest of carrying our remedies directly to the seat of disease without first sending them through the course of the circulation. He

considered that great advantage would arise from the employment of the inhalation of ether and other vapours in affections of the air-passages. He related the case of a lady who had been for years the subject of a distressing catarrhal affection, which was much influenced by weather and other causes, and the attacks of which were often obstinate, and difficult of relief. He thought this might be a case in which the inhalation of ether might be of service, and he accordingly directed her to inhale it in the simplest manner, by holding a bottle of ether to the nose, smelling it strongly, and drawing deep inspirations, until she found it affected her. She was usually under its influence in about five or ten minutes. She had pursued this treatment for several days with the greatest advantage; it acted by diminishing the sensibility of the mucous membrane.

Intermittent Fever.

Dr. RISDON BENNETT had seen of late more intermittent fever than he had done for twelve years previously. Periodic neuralgia was also very prevalent.

Dr. CHOWNE attributed this to the prevalence lately of easterly winds.

WESTMINSTER MEDICAL SOCIETY.

April 3rd, 1847.

JOHN WEBSTER, M.D., F.R.S., President.

Dr. SNOW laid before the Society a small and very neat apparatus for the inhalation of ether. He said, that in consequence of remarks made by some of the members when his late paper was discussed, he had been induced to try to modify his inhaler so that it could be carried in the pocket. By dispensing with the metal pipe that surrounds the larger apparatus, and by substituting flat for spherical valves, he had been able to get this to pack into a round leather case, such as is commonly used for holding cupping glasses. It was made of brass, tinned inside, and was three inches in diameter, and two and a half inches deep. The top unscrewed, and in the interior, and soldered to the top, there was a convoluted tin plate, as in the other inhaler. It was provided with an elastic tube, and with two valves, one balanced with a weight to admit air into the inhaler, and another just behind the mouth-piece, for the exit of the expired air. Instead of the two-way stop-cock, there was a ferrule to admit external air into the tube, near the mouth-piece, when required. This inhaler was to be placed in a basin of water like the larger one. He did not intend it to supersede the latter, which was better adapted for exact observations; but practically it

would answer as well, and had the advantage of great portability. It was made by Mr. Ferguson. The elastic tube and the valves were five-eighths of an inch in internal diameter. He considered it of great importance that all the passages through an inhaler should be at least as wide as the human trachea. Some writers had recommended three-eighths as sufficient. Now, the area of a tube of three-eighths of an inch was to one of five-eighths only as nine is to twenty-five. Many ether inhalers were very faulty, from the deficient size of tubes and apertures, and from offering obstructions by sponges, and if used even without ether would put a patient in danger from obstructed respiration. In saying this he did not mean to blame any one, for the subject of inhaling with the mouth and nostrils closed was perfectly new. He did not believe that ether would produce illness that would end fatally after two days; and if the fatal case or two related had really resulted from the inhalation, it must have been from deficiency of air, and not from the ether.

SOUTH LONDON MEDICAL SOCIETY.

April 1, 1847.

CHAS. WATERWORTH, Esq., President, in the Chair.

MR. BLAXLAND related a

Case of Fatal Hemorrhage from Perforation of Oesophagus and Aorta resulting from swallowing a fish-bone.

The patient, a woman, æt. 45, while at dinner, swallowed a fish-bone, which she had endeavoured to extract without success. There was great pain on deglutition referred to sternum. A probang was passed into stomach without resistance; the recumbent position ordered, and oleaginous purgatives. The pain on deglutition was great, and referred to sternum and situation of sixth dorsal vertebra, and continued unabated for five days, at which time the author received a hasty summons to attend, and found that she had vomited about four pints of blood, mostly of a florid colour. The patient was in a state of collapse, with cold extremities and anxious countenance. Notwithstanding the exhibition of stimuli, she only rallied slightly. About eight hours after, further vomiting of blood took place, and the patient died exhausted. On examination of the body, it was found that an opening existed at about the middle of the thoracic portion of the oesophagus, of a circular appearance, and about the size of a large pea; contiguous to this, but rather lower

down, an opening into the aorta, of a jagged appearance, also existed.

The author considered the continued action of the oesophagus must have enlarged the opening, and the impetus of the blood in the aorta dislodging the bone, gave rise to the flow of blood into the stomach, and consequent vomiting.

Mr. CRISP, alluding to the singularity of the case, inquired whether the probang had not forced the bone through the oesophagus, and caused ulceration.

Mr. LONGER related a case in the London Hospital, where a piece of tobacco-pipe, two inches long, was forced through the tonsil while a man was smoking. At first there was not much inconvenience, but two days after, great swelling and sense of suffocation came on. On the removal of the pipe with a pair of forceps, a gush of blood took place, and instant death, the pipe having formed a plug, and prevented earlier hæmorrhage.

Mr. DALBY objected to the use of the probang, and preferred an instrument to hook up any foreign body that might be lodged, and alluded to a case where the use of the probang had caused inflammation of the cellular tissue between the oesophagus and spine, which led to an abscess only discovered after death.

Dr. MURPHY advocated the use of the probang when the body was round or soft, not so if sharp or pointed, and objected to the instruments for bringing up the foreign body, as it might cause laceration of the mucous membrane. He narrated a case of vomiting of blood arising from a small ulcer at the cardiac end of the oesophagus.

Mr. BLAXLAND, in answer to the President and Dr. Murphy, stated that his patient was previously in good health, and that the ulcer appeared rather the result of injury than of disease.

Mr. CRISP thought the fish-bone had probably caused the mischief; if it had been a chronic ulcer the edges would have been rounded and thickened; probably the opening in the oesophagus had been first formed, and afterwards that in the aorta.

The PRESIDENT alluded to cases of hæmorrhage from the stomach, and the little found after death to account for them, and related the case of a gentleman of gouty diathesis who had periodical discharges of blood from the stomach every three weeks. After death the stomach was found healthy, but ulceration existed at the cardiac extremity of the oesophagus; there was no pain or tenderness present in this case.

Mr. STERRY alluded also to a case where vomiting of blood and mælena existed; there was intense pain after meals, but no hæmorrhage. Emaciation and death took place, and after death extensive disease of

the stomach and pancreas, of malignant character, was found.

Mr. STERRY then read the following

Cases of Variola.

On the 7th of last March, he visited a gentleman, æt. 18, who was employed in a large wholesale house in the City. He had been unwell from an attack of gonorrhœa, and had been taking balsam of copaiba for it. For the last two days he had attacks of rigors, nausea, and vomiting, and on reaching home complained of stiffness about the arms, and was obliged to be assisted. On seeing him, there were present flushed face, hot skin, loaded tongue, laborious breathing, pulse 104, loaded state of urine, constipated bowels, and great pain of head and back; his answers to questions were hesitating, but correct, and only in monosyllables. Purgatives and salines were ordered, hair to be cut close, and sinapisms to be applied to the epigastrium. Slight improvement of general symptoms followed these means on the following day, when a considerable efflorescence appeared over the face—surface of the body free from it. To inquiries no origin of an exanthem could be traced, all the young men where he was employed being quite healthy. He had been vaccinated in infancy, but had not a well-marked cicatrix; in fact, it appeared doubtful whether it had taken, as from the age of four months to ten years he had been the subject of severe lepra. On the following evening the eruption had increased, and proved to be variola. The general symptoms were severe, and he was ordered saline medicines; the rash became confluent on the face and on the extremities, where the pustules were distinct; an areola was very marked. The restlessness and irritability continued during the eruptive stage, but was controlled by small doses of opium, and subsided as the pustules matured. Convalescence was steadily progressive.

The author would direct the attention of the Society to the peculiarity and severity of the initiatory symptoms, for although in children convulsions often occur, and delirium in adults, in the case narrated the patient was perfectly sensible, yet unable to express his wants, or answer questions except by a single expression. The test of vaccination may be considered interesting, for although no mark existed, the rapidly favourable termination proved the constitution under its influence. The operation must have been performed while the child was suffering from lepra, and the author does not remember an instance of successful and perfect vaccination in a patient the subject of cutaneous disease. It also might be asked how the patient acquired small-pox,

as he was not aware of having seen or come in contact with any suffering under the disease, all the inmates of the house of business being healthy. Could he have caught any contagion from the fleecy goods in the warehouse? The author stated he had known instances of the disease in those employed at these wholesale houses where no exposure could otherwise be traced; and he was informed that in this establishment isolated cases have occurred during the last few years, generally at the period of receiving their large supplies from the manufacturing districts. The following cases exhibited small-pox contemporaneous with the cow-pox:—The first case, a child æt. 3 months, was vaccinated Dec. 31st. On the sixth day, two well-formed vesicles had arisen on the arm, when the variolous rash appeared, which increased till Jan. 7th, when it was as confluent as if the child had not been vaccinated. The vaccine vesicles did not progress farther, but appeared as usual on the sixth day without areola. With the exception of the variolous pustules being less prominent than common, there was nothing remarkable; they were confluent to the greatest degree. The bowels being relaxed, aromatics, with a little syrup of poppies, was given, and the patient went on well until Jan. 12th, when the breast was refused, diarrhœa returned, and death took place on the following day. The pustules of the vaccine and small-pox could not be distinguished from each other during the last few days.

The other case was in an infant which had been vaccinated, and had perfectly formed vesicles on each arm. The small-pox eruption appeared five days after, and covered the child. The mother stated that a neighbour's child, vaccinated at the same time, was in a similar state, but that other children in the same court, and also vaccinated at the same time, were not affected with variola.

Mr. LODGE, as regarded the initiatory symptoms in the first case mentioned, thought they only varied in degree from usual attacks, and in respect to the source of contagion he mentioned an instance where a bed on which a patient with small-pox had been confined, was torn up and thrown into a field in which were some cows, who took the disease analogous to small-pox.

Dr. MURPHY considered the confusion of intellect in the first stage of small-pox as diagnostic, as in typhus fever delirium never occurs under four days, while in variola it occurs within the first 36 hours. Convulsions he regarded as a dangerous symptom, and objected to the opening of a vaccine vesicle where there was only one present, as it prevented the re-absorption of the

matter. He alluded to the identity of small-pox and vaccinia.

The President believed under such circumstances the areola did not pass through its several stages properly.

Mr. STERRY also agreed in the impropriety of opening the vesicle where only one or even two existed.

Mr. CRISP thought the premonitory symptoms in the case related were remarkable on account of the previous state of the patient. The question as regarded the communication of the contagion by woollen goods was very important, as it was agreed the contagion of exanthems might last a long time: in confirmation of which, he related a case where a child with scarlet fever had a toy covered with wool to play with; this was put into a drawer and forgotten, and at the expiration of about twelve months it was brought out for another child, who took the disease immediately. He could not agree as to the identity of variola and vaccinia, as one was pustular, the other vesicular, and the vaccine vesicle was arrested by the occurrence of small-pox.

Mr. STERRY alluded to Mr. Ceely's experiments, showing that a cow inoculated with variolous matter would give to the human being a disease similar to vaccinia, and inquired as to the interference of eruptions present at the time of vaccination?

Mr. WRIGHT observed that modified small-pox occurred where there had been no previous vaccination.

Mr. CRISP agreed with Dr. Murphy that where depletion had been used for the cerebral symptoms antecedent to eruption of variola, such cases were generally fatal.

Dr. MURPHY thought vaccination would take where strophulus was present, and that the quantity and condensation of the contagion determined whether the disease should be variola or vaccinia.

Mr. CRISP could not agree with this, as we had mild from confluent, and confluent from mild small-pox produced.

Mr. STERRY also agreed as to the impropriety of depletion: he had even known purgatives prejudicial. As a proof of the non-identity of the two diseases, he would vaccinate a child in a room where small-pox existed, and yet the child would only have vaccinia.

The Society then adjourned.

At the next meeting, Dr. Gull will read a paper "On the Medical Properties of Ether, and the Effects produced by its Inhalation by Man and the lower Animals, illustrated by Experiments."

Correspondence.

THE COLLEGE OF PHYSICIANS OF LONDON.

SIR,—The very just remark which you made in your leading article of last week respecting the College of Physicians, encourage me, with your leave, to point out some additional facts to the notice of your readers. It is high time that the profession and the public should be made acquainted with the discordant elements of which the College is composed, and of the actual state of the law under which its authorities claim their right of acting.

The College, as you justly state, consists of three primary classes,—namely, Fellows, Licentiates *intra-urbem*, and Licentiates *extra-urbem*. The important document which accompanies this letter will prove the several relations of these three classes to each other: in short, they are as follows:—

1. The fellows, as such, are the sole rulers of the Corporation, and they have a right to practise as physicians throughout every part of England.

2. The Licentiates *intra-urbem*, or *permissi*, are admitted under a bye-law of the College, and they hold their license during good behaviour. The words in the license are (or were up to 1838), *quandiu se bene gesserit*. They are entitled by their license to practise in London and within seven miles of the same, and not beyond that distance. The College, as such,—I mean as a body,—has no authority to give them a more extensive right, except by making them Fellows. They are examined by the Censors.

3. The Licentiates *extra-urbem* are admitted by the President and Elects, by letters testimonial, under an Act of Parliament. The letters testimonial having been granted, cannot be recalled by the College. The *extra-urbem* Licentiates have a right to practise as physicians throughout the whole of England, except in London and seven miles around.

Except as regards the Fellows, the law at the present time is precisely that ordained by the Act 14 and 15 Henry VIII. With respect to the alteration made since, extending the rights of the Fellows, I shall speak presently. By the Charter of the College their jurisdiction and right to practise extend only to the distance of seven miles round the city of London.

The following is the clause in the Act relating to English physicians, and under whose authority the *extra-urbem* Licentiates derive their right to practise:—

"And that it be enacted in this present

Parliament (14 and 15 Henry VIII.) that no person from henceforth be suffered to exercise or practise physic throughout England until such time as he be examined at London by the said President and three of the said *Elects*, and to have from the said President or *Elects* letters testimonial of their approving and examination, except he be a graduate of Oxford or Cambridge, which hath accomplished all things for his form, without any grace."

By an Act of the 32 Henry VIII., which declares "the science of physic to comprehend, include, and contain a knowledge of surgery, as a special member and part of the same," "any of the said Company or Fellowship of Physicians may, as well within the city of London as elsewhere within the realm, practise and exercise the said science of physic in all and every its members and parts."

The case, then, stands thus:—

1. The Fellows of the College may practise in London and seven miles round, by virtue of their Charter, (it is unnecessary to recite the Charter which gives them this power); and they may practise throughout the realm under the 32 Henry VIII.

2. The Licentiates *extra urbem*, and Graduates of Oxford and Cambridge, may practise in every part of England beyond the distance of seven miles of the city of London.

3. The Licentiates *intra-urbem* may practise in London and seven miles round the city.

Such is the law as it exists at present. Doubtless it would be better if it were different.

Having pointed out the respective rights of the three classes which fill up the list or "catalogue" of the College, I will, with your permission, offer a few facts and remarks upon the legal, as well as upon the domestic, division of the Fellows themselves.

The Act of Parliament (14 and 15 Henry VIII.) which confirms the Charter or establishment of the College, divides the Corporators or Fellows into two classes; namely, 1st, the *Elects*, and 2d, the ordinary Fellows.

The "*Elects*" are eight in number; and, according to the Act of Parliament, they are to be "of the most cunning and expert men of and in the said faculty in London."

"The same *Elects* yearly shall choose one of them to be President of the said Commonalty, and as oft as any of the rooms and places of the same *Elects* shall fortune to be void, then the survivors of the said *Elects* shall choose one or more of the most cunning and expert men," &c.

It is evident, therefore, that the law contemplates that the *Elects* shall be a class of Fellows superior to the "*Commonalty*,"

or the ordinary Fellows; because not only does it give them the power of self-perpetuation, but it also consigns to them alone the function of appointing the President or head of the College; and he must, moreover, be *one of their own body*; that is, one of the *Elects*.

I am particular, sir, in dealing with these facts, because, with your permission, I shall have to refer to them hereafter.

Before making any comment upon the conduct of the College, in reference to its memorial to the Secretary of State, I am very desirous that the profession should be made fully acquainted with the law, as it applies to the different classes of which the College is composed. In confirmation, therefore, of the exposition I have just given, I have to beg that you will append to this letter the accompanying document. I need not remind your readers that the name of one of the authorities attached to it is that of a present Judge of the land; and of the others, that of the late Solicitor-General.

But before concluding this letter, I wish particularly that it may be understood, that in whatever I have said here, or may have to say hereafter, it is far from my intention to draw any invidious distinctions between the two classes of Licentiates as men of science, or between either or both, and those gentlemen who practise as physicians by the possession of a Scotch or Foreign diploma only. I have no such object in view.—I have the honour to be, &c.

A.

March 8th, 1847.

Opinions of the SOLICITOR-GENERAL and Mr. E. V. WILLIAMS on Questions submitted (with a case) to them by Licentiates (Extra Urbem) of the Royal College of Physicians of London.

1. What members of the Faculty are legally entitled to admission into the Fellowship or Commonalty of the College?—Is any examination of them prior to admission contemplated or authorised by charter or statute; and, if any, is an examination by the President and Censors such an examination, or would the admission thereupon be illegal and void?

I am of opinion that no member of the Faculty is legally entitled to admission into the Fellowship or Commonalty of the College.—It has been expressly decided that an *Intra Urbem* Licentiate cannot claim, as a matter of right, to be examined by the College, in order to be admitted a Fellow (*Rex v. College of Physicians*, 7 T. R. 282). The same case establishes that the College are the sole judges who is fit to be admitted, and may regulate the mode by which they shall judge by their own bye-laws (provided

they are reasonable). Hence it appears that the necessity of examination and the mode of it are not at all dependent on the Charter or the Acts of Parliament.

2. Had the College power under the charter or statute (14 and 15 Hen. VIII. c. 5) to constitute the class "Licentiates" by the bye-laws of 1647, and subsequently to grant to them letters testimonial to practise under the common seal of the College, and in what relation as to privilege or otherwise do they stand to the College?

I am of opinion that the bye-law of 1647 was clearly illegal, and that a Licentiate constituted under it was not duly authorised to practise, because the license, in order to protect the Licentiate, must plainly be under the seal of the College. But I am clearly of opinion that the constitution of the class "Licentiates Intra Urbem" was contemplated by the charter, and legally exists by virtue of the College licenses under seal. However, I am of opinion that they have no further relation to the College than that they are authorised to practise by the license.

3. Have either the Fellows or Intra Licentiates (not being Graduates of Oxford or Cambridge) a right, under the statute 32 Hen. VIII. c. 40, or otherwise, legally to practise medicine through England, or is such right annulled by 1 Mary, c. 2, re-enacting 14 and 15 Hen. VIII., which requires physicians so practising to have letters testimonial from the President and Elects; and, if not, are they liable to any and what penalty or punishment for practising?

I am of opinion that the Fellows have a right to practise throughout England, but I incline to think that the Intra Licentiates have not, unless they have letters testimonial, or are Graduates. At all events, this right is doubtful. In the College of Physicians v. West, 10 Mod. 354, the Court held that a Graduate could not practise in London without a license; and, on being pressed with the last clause of the statute 14 and 15 Hen. VIII. c. 5, said, "all the inference from that would be, that probably two licenses may be necessary where a person is not a Graduate." But, assuming that the Intra Licentiates have no such right, I think that they are not subject to any pecuniary penalty for practising beyond the limits of their license, though, perhaps, they may be liable to be indicted for a contempt of the statute.

4. Are the Extra Licentiates amenable to the bye-laws and jurisdiction of the College, and in what relation, as to privilege or otherwise, do they stand to it.—Can they legally practise in London, and within seven miles, by virtue of their letters testimonial from the President and Elects, or otherwise;

and, if not, are they liable to any and what penalty for practising within those limits?

I am of opinion that the Extra Licentiates are not amenable to the bye-laws and jurisdiction of the College, and stand in no other relation to it than that they have authority to practise by virtue of the College testimonials. I am of opinion that they cannot practise in London legally, or within seven miles, and that they are liable to a penalty of £5 a month for so practising.

5. Are the President and Elects amenable in law or equity for knowingly granting testimonials to improper persons, or otherwise injudiciously and improperly fulfilling the duty imposed on them by statute 14 and 15 Hen. VIII. c. 5, s. 3, and is there any and what remedy or punishment for their so doing?

I am of opinion that, if it could be made out that the President and Elects acted corruptly, they might be punished by criminal information or indictment for granting testimonials to improper persons, or the like, but not otherwise.

6. Can the College, or any particular portion of it, legally rescind the letters testimonial of any Fellow, Extra Licentiate, or Intra Licentiate, for *malap Praxis* or otherwise, and can they suspend such Fellow, Extra Licentiate, or Intra Licentiate, or any and which of them, from legally practising either in London or through England?

I am of opinion that the College might rescind the license granted to an Intra Licentiate, and might suspend a Fellow for *malap Praxis*. But I am of opinion that they have no power on that account, or any other, to recall the letters testimonial of an Extra Licentiate.

7. Have the Extra Licentiates, under the circumstances above stated, sufficient grounds for petitioning parliament, to be heard by counsel, in support of their claim to an equal participation with the Fellows and Intra Licentiates in the privileges to be conferred by the proposed new charter; or what, in your opinion, is the most advisable mode of prosecuting such claim?

In my humble judgment, the Extra Licentiates have no sufficient grounds for claiming an equal participation with the Fellows in the privileges to be conferred by the new charter. But I cannot see any just reason for making any distinction in this respect between the Intra Licentiates and the Extra Licentiates. In the famous contest between the Intra Licentiates and the College (reported in Dr. Askew's case, 4 Burr, 2186, and R. v. College of Physicians, 5 Burr, 2740), the Licentiates most vehemently insisted on their right, under the charter, to be regarded as actual members of the College. But after the decision of Rex v. the College

of Physicians, 7, T. R. 282, I think it is impossible any longer to maintain that position; and it seems to me that neither their relation to the College, nor their status generally, in any way materially differs from that of the extra-Licentiates. It is true that it has been held that a Graduate may practise in the provinces without a license or testimonials, whereas he may not practise within the metropolitan limits without a license; and on this occasion (Dr. West's case, 10 Mod. 354) the court, in the reign of George IV., certainly said that there may be many good reasons for taking a particular care of those who practise in London; but I much question whether the judges in Westminster Hall, at this day, would concur in this view. Again, it may be said that the College has, by its charter, a power of supervising and correcting *mala praxis* in the metropolitan practitioners, which it has not with respect to the Extra Licentiates; and I certainly think that this power ought either to cease altogether, or to be extended to both classes. But, inasmuch as both classes are, in my opinion, in the simple position of persons authorised, as fit persons, by the College to practise as physicians to the subjects of this kingdom, I cannot discern any reasonable ground for making any distinction between them as to a participation in the privileges to be conferred by a new charter; and I therefore think that the Extra Licentiates have a just cause for petitioning parliament, to be heard by counsel against any legislative provision which seeks to introduce any such distinction.

EDWARD VAUGHAN WILLIAMS.

2, Inner Temple Lane,
Jan. 9th, 1846.

Opinion of the Solicitor-General.

I entirely concur in opinion with Mr. Vaughan Williams upon the legal questions arising in this case. I forbear to offer any opinion as to the expediency of petitioning parliament; but, should such a step appear advisable hereafter, the parties interested should confer upon the subject with counsel, not members of the House of Commons.

FITZROY KELLY.

Temple, Feb. 23, 1846.

THE CASE OF MRS. PARKINSON.

SIR,—Several reports lately having appeared tending to prejudice the inhalation of ether, I should feel obliged by your inserting the following questions in your periodical.

Faithfully yours,

CHIRURGUS.

April 3, 1847.

Alluding to the case of Ann Parkinson, operated on by Mr. Robbs—

1st. What apparatus for the inhalation did he use?

2d. As she clearly was not completely put under its influence previous to the operation, whether the shock on the system did not partake in the cause of death?

3d. As there was much pain complained of after the operation, whether this did not occasion the constitutional irritation and its consequences?

4th. Her general temperament and diathesis.

5th. As the post-mortem appearances were healthy for the most part, what decisive evidences could be shew to render it probable that ether occasioned her death, and that she might have survived had not inhalation been resorted to?

NOTE FROM MR. ROBBS ON THE CASE OF MRS. PARKINSON.

SIR,—My attention having been drawn by Mr. George Kewney, the Coroner, to the concluding paragraph of my paper published in your GAZETTE of the 2d of April, "On the Fatal Effects of Ether Vapour," as reflecting upon him for holding such inquest, in stating that it originated in a bad and vindictive feeling, and that the attempt of convicting by wholesale four qualified surgeons of an act of manslaughter from the circumstances of a mischance from a surgical operation, was something new in the annals of the profession,—I beg most unhesitatingly to state that I had no intention of making any reflection upon him, never for one moment supposing that he entertained any such feeling, or had any other object in view in holding such inquest than doing what he considered a public duty.

I am, sir,

Your obedient servant,
WILLIAM ROBBS.

April 3, 1847.

DEATHS FROM PUNCTURES IN DISSECTION.
—MORTALITY AMONG FRENCH MEDICAL STUDENTS.

FROM accurate researches it appears that during a period of twenty-one years, from 1826 to 1846, thirty-three students belonging to the Faculty of Medicine of Paris died from suppurative fever arising from punctures received in dissection. It appears also, that while during the same period the rate of mortality was only one in eighty among students of law, and one in seventy-five among the students of the Polytechnic (Military) School, it was at least one in fifty among students of medicine.

Medical Intelligence.

REMARKS ON THE PREPARATION OF ETHER
—MODE OF EMPLOYING IT IN OPERA-
TIONS, &c.; WITH AN ACCOUNT OF THE
ORIGINAL DISCOVERY. BY C. J. JACK-
SON, M.D.

WE are aware that ether ranks in the pharmaceutical books and dispensaries as a diffusible stimulant, and that its fumes or vapour produce intoxication of short duration; but it was unknown, until my experiments were performed, that it rendered the body insensible to pain, and threw the mind into a pleasant reverie or dream, so as to disregard the tortures of the knife and caustery; inasmuch that, so far from recommending its inhalation, all the authorities strenuously advised against breathing it, as "fraught with danger." Perhaps there may be danger in the prolonged inhalation of the ordinary ethers of pharmacy, which are liable to be impure. We know that commercial ethers may contain sulphurous acid gas, acetic, formic, and aldehydic acids; the three latter being produced by absorption of oxygen from the air.

The presence of a considerable proportion of alcohol in these ethers causes them to produce mere intoxication, followed by headache and prostration of nervous energy.

Although ethers may have experienced these effects, still the higher stage, viz. perfect insensibility and unconsciousness of pain, was never reached; and the thin veil which concealed this discovery from the world had not been raised until my experiments were instituted.

A short description of the best processes for preparing ether to produce the effects which I proposed to attain will not be irrelevant.

The basis of all the ethers is a hypothetical radical, called ethule, which is represented by the formula $C_4 H_8$ and symbol Ae. Pure sulphuric ether is regarded as an oxide of ethule, and is represented by the formula $C_4 H_8 O$; its symbol is therefore Ae O. It is prepared by decomposing highly rectified alcohol by means of sulphuric acid or oil of vitriol. Five parts of alcohol of 90 per cent. are mixed with nine parts of oil of vitriol in a vessel of copper or iron, placed in cold water, so as to cool the mixture. The action of sulphuric acid on alcohol is catalytic; bisulphate of oxide of ethule is formed, which, by elevation of the temperature and brisk ebullition, is decomposed, and the oxide of ethule passes over in vapour; the sulphuric acid remaining with a portion of undecomposed alcohol, the water which passes over in vapour no longer uniting with

the ether. Alcohol is repeatedly added to the sulphuric acid, which would decompose an indefinite quantity of it, were it not diluted by the water introduced, 10 per cent. of which is conveyed to it by common alcohol.

The distilled liquid is next to be treated with an alcoholic solution of potash to neutralise the acids, and to render it slightly alkaline. It should then be redistilled in a water bath, and the operation is to be arrested as soon as the ether has attained a specific gravity of 0.72 at 80° F. The specific gravity may be still farther reduced by allowing it to stand for some days over dry chloride of calcium, and then redistilling it in contact with that hygrometric substance. Its boiling point is at 96° F. It has a penetrating aromatic odour, and is highly inflammable. It should not change the colour of blue litmus paper.

The pure vapour of ether as thus produced will not support respiration, and, by excluding air from the lungs, would produce complete asphyxia. Therefore I inspired it in such a manner that there was mixed with the vapour a sufficient quantity of common air to enable the lungs to perform their usual functions, but slightly disturbed by the ethereal vapour; and I would caution all who may administer it in future carefully to fulfil this important condition, so essential to success. In cases where alarming symptoms of asphyxia may occur from the accidents of improper administration, or from impurities of the ether employed, and in those persons of highly nervous susceptibility, or of determination of blood to the brain and pulmonary diseases (though in the latter cases it may have been improper to administer it), I have prescribed the inhalation of pure oxygen gas, which, acting on the blood, immediately renders it arterial, and this gas should be kept in readiness to meet any such emergency. It may be preserved in a gasometer, and be drawn off in a large India-rubber bag for use at any moment. The administration of the ether, with all the above-mentioned precautions, will produce the kind of insensibility required. Its production is immediate, of short duration, and the effect passes off in a very short time.

In my first successful experiment the conditions as stated above were fulfilled, though the mode of administration was of the simplest kind, it is true, but yet efficient. A folded cloth, saturated with the highly rectified ether, was placed over the mouth, the air being drawn freely through it, and the inhalation was continued until I lost all power over myself, and sank back in my chair in a state of peculiar sleep, or reverie. I experienced at first a sense of coolness, then of exhilaration and warmth, followed

by loss of consciousness. But it was not until a subsequent trial that I became aware that this loss of consciousness was accompanied by insensibility to pain; and a severe bronchial irritation, produced by the inspiration of a large quantity of chlorine gas, was for the moment relieved, and the peculiar distress occasioned by that gas was not felt so long as I was under the influence of the ether, though as that passed off it returned. I had several times occasion to mention these facts to my friends, and it is now a year since I urgently advised Mr. J. Peabody, who was associated with me as a pupil in chemistry, to inhale the ether vapour as a means of preventing pain which would arise from the extraction of two of his teeth. He consented to try the experiment, and was preparing some ether for the purpose, but on consulting the works in which the effects of ether are mentioned, he found all the authorities arrayed in opposition to my views, and that they warned against its inhalation, as I have before stated, and he therefore did not complete the experiment.

About the last of September, or early in October last, I communicated my discovery to Dr. W. T. G. Morton, an enterprising and skilful dentist of this city, whom I occasionally advised, and who called at my laboratory to borrow an India rubber bag, which he said he intended to fill with atmospheric air, and to cause a refractory patient to breathe it, hoping to act on her imagination, and induce her to allow him to extract a tooth. I dissuaded him from this attempt, and explained to him that I had discovered a process by which real insensibility to pain might be produced. I showed him sulphuric ether, and described the method of administering it, and also its effects on the system, assuring him, that if my directions were carefully followed, no danger would ensue. I advised him to try its effects on himself, in order that he might better understand its mode of operation. He followed my instructions, and was successful in the first trials, in the extraction of teeth unattended with pain, the results proving exactly as I had predicted. I also furnished him with a large glass flask with a bent glass tube as an extempore inhaling apparatus. I then proposed to him the trial of the ether in a surgical operation at the Massachusetts General Hospital, where it was administered by Dr. Morton, and it proved successful; but some persons who witnessed the first operation doubted the entire freedom from pain, since the patient said he felt a scraping. I was therefore desirous of testing it in a capital operation, the severity of the shock being the best test with regard to the degree of insensibility. Dr. J. C. Warren politely consented to have the

trial made, and its results proved entirely satisfactory, an amputation having been performed under the influence of ethereal vapour without giving any pain to the patient. Drs. J. C. Warren, Hayward, Townsend, and J. M. Warren, performed the first successful operations that are recorded. Since then, the most eminent surgeons in Europe and others in this country have confirmed, by numerous trials, the reality of the discovery. Occasional failures were to be expected, but they have mostly arisen from imperfect modes of administration, though some may be attributed to idiosyncrasies. Medical as well as surgical science will probably derive advantage from this new practice. It may be worthy of trial in tetanus and other spasmodic diseases. Intermittent headache I believe already to have been relieved by it, and the chills of intermittent fever may possibly be broken. The relaxation of the muscles effected by free inhalation of ether vapour may enable the surgeon to reduce dislocations, and dispense with the powerful force of pulleys and other violent means of extension. Already it has found its way into the Royal Veterinary Colleges of France and England, where severe operations have been performed on horses, sheep, and dogs, without the manifestation of any pain or struggles in these animals. Even division of nerves has been performed on a horse, to which the ether had been administered; and although the animal was in no way restrained, not a struggle was made, or any sign of pain perceived. This precludes the idea of the effect being due to the imagination.

How far this new practice may extend is yet unknown, but there cannot be any reason to believe that the limits of its application have been conceived.

FREE TRADE IN POISONS.

A TRIAL for manslaughter by poisoning with Godfrey's cordial took place at Guildford on Saturday last, and it came out on the cross-examination of one of the witnesses, that laudanum and Godfrey's cordial were sold at different shops in the town in common with *grocery, cheese, candles, and drapery*! One of the shopmen, in answer to a question put to him by the counsel for the defence, said very innocently that he did not know whether they kept prussic acid and arsenic, as well as laudanum, among their articles of grocery!

Not long since a superintendent of police went in disguise to a general shop in a country village, and asked for two penny-worth of arsenic. It was immediately weighed in the scales in which coffee and other articles were weighed, and handed to him by the old woman who kept the shop. Upon asking her whether she was not in

the habit of marking "poison" upon articles of this kind, her answer was: "Lor bless you, I can't write to begin with, and then it would frighten people if poison was written on it." This experiment was made in order to ascertain with what facility enough arsenic might be procured to destroy the lives of almost *one hundred persons*: and it was perfectly successful! It furnishes a clue to the cause of the abundant occupation given to coroners, magistrates, judges, barristers, and others, in detecting and punishing individuals for the perpetration of crimes which the Government takes not the slightest pains to prevent.

MONUMENT IN WESTMINSTER ABBEY TO JOHN HUNTER.

MEETINGS have lately been held at the Royal College of Surgeons, attended by most of the surgeons of the metropolitan hospitals, for the purpose of organising a committee among themselves, in co-operation with the Council, for the purpose of raising a monument in Westminster Abbey to the memory of John Hunter. The circumstances under which the proposal was made are exceedingly creditable to all parties; it appears that after the delivery of the late Hunterian oration, when the members of the Council, with their distinguished visitors, dined at the Freemasons' Tavern, the Rev. Dr. Buckland, the eminent geologist, in returning thanks for his health, stated that soon after his installation to the deanery of Westminster, whilst walking round the Abbey with Professor Owen, he expressed to that gentleman his regret that the medical profession, of which Hunter was so bright an ornament, had not yet erected any monument to his memory, and suggested the propriety of one being placed in a vacant niche near Dr. Baillie's, generously offering, should his suggestion be adopted, to forego the fees to which he would have been entitled, and to promote the object as far as he could. The wish thus expressed was immediately responded to by the Council, who have invited the surgeons of the metropolitan hospitals to confer with them on the best means for carrying out the object in question.—*Times*.

RESPONSIBILITY OF THE DISPENSERS OF MEDICINE—APOTHECARIES AND DRUGGISTS.

ACCORDING to some authorities, an apothecary has no discretion in the dispensing of medicines. If he knowingly deviates from a prescription, or refuses to prepare it faithfully, provided the prescription be signed with the initials of the physician in his own hand-writing, the apothecary is liable to a fine of five pounds for such delinquency,—

ten pounds for a second offence, and a forfeiture of his certificate on the third offence under 55 Geo. III. c. 194, s. 5. Acts of Parliament are commonly marked by the grossest blunders in their penal clauses (as in that memorable case where one-half of the penalty was assigned to the informer, and one-half to the Queen,—the penalty by a subsequent clause being three years imprisonment!), but the 55th Geo. III. cannot, in our view, be charged with any such absurdity as that which is here assumed. Mistakes in prescriptions, were no discretion allowable, would be continually leading to loss of life. Bichloride of mercury has been written for chloride, cyanide of potassium for ferrocyanide, and other formidable errors arising from ignorance or inadvertence have been made. An apothecary may decline to dispense such a destructive prescription without incurring responsibility; because under this clause there is no offence if he *can shew some satisfactory reason, excuse, or justification* for his refusal; and he must be a very unreasonable judge, who would not consider that there was a sufficient reason in the accused declining to become the agent to poison a fellow-creature. It would in all cases be safer to decline making up the prescription, than to alter the doses or the ingredients, or to omit any article. In this case the dispenser might, according to circumstances, be made responsible for the results.

As to dispensing druggists, there is no law which affects or controls them in the preparation of prescriptions. To avoid responsibility in the event of death, they are expected to bring a reasonable amount of knowledge to their business; but they may under all circumstances, and without assigning any reason, decline to prepare a physician's prescription.

SUMMARY PUNISHMENT OF QUACKS IN BRAZIL.

A QUACK who passed himself off as a Dr. Douville lived at Formigas, and gained much money by the practice of medicine. He said he had been sent to Brazil by the King of France on a mission to investigate its natural productions and curiosities. He generally charged exorbitant sums of money to those whom he attended in his medical capacity, and it was owing to an instance of this kind, that he met with his death. Somewhere near the Rio de San Francisco he was called upon to attend a Fazendeiro who was ill, and with whom he bargained to effect his cure for a sum equal to about twenty-five pounds sterling. In the end the patient died; notwithstanding which the Doctor insisted on receiving the stipulated sum; and after some time the heirs of the deceased yielding to his importunities, gave

it to him. They did not, however, intend that it should remain long in his hands; for when Dr. Douville embarked to go down the river, they sent a man after him who killed him one night as he was asleep in his canoe, and robbed him not only of his fees but of every thing he had in his possession: thus he fell at last a victim to his own gross impostures.—*Gardner's Travels in Brazil*.

STATISTICS OF MEDICAL PRACTITIONERS IN THE METROPOLIS.

IN the last number of the Medico-Chirurgical review is an interesting classification of the profession derived from an analysis of the Medical Directory.

Consulting Physicians, including	
30 Physician Accoucheurs, . . .	301
Physician General Practitioners . . .	133
Consulting Surgeons, including	
the leading Dentists . . .	176
Practitioners holding only College of Surgeons' Diploma . . .	468
Practitioners holding only Apothecaries' License . . .	275
Practitioners holding both Diploma and License . . .	990
Practitioners in practice before 1815	70
	2413
Practitioners of no assigned qualification 360 !	
Add names in the Provincial list	8286

Total in England and Wales 10,699

In the above metropolitan list the possessors of Giessen and Erlangen degrees, &c. are properly referred to their English qualifications.

MISTAKES OF MEDICAL AUTHORS.

DR. FLANDIN, in his recent work on Poisons, points out a singular mistake into which Orfila has fallen in quoting as antecedent to the time of Hippocrates an author who lived and wrote in the seventeenth century! At page 457, tome i. of his *Traité de Toxicologie*, 3d edition, Orfila says in speaking of the vapours of arsenic:—"Hippocrates relates that Tachenius suffered from severe cough, difficulty of breathing, colic, bloody urine, and convulsions, owing to his having been exposed for some time to arsenical vapours which escaped from a subliming apparatus. Milk and oleaginous liquids removed these symptoms, but he suffered for a long time from cough and hectic fever. He recovered under the use of demulcent drinks and a cabbage diet." The quotation given is HIPPOCRATES, *Chemic*, cap. xxiii.

Hippocrates died 377 years before Christ. Otto Tachenius wrote a work entitled *Hippocrates Chemicus*, which was published

in Paris in 1669. Orfila evidently mistook this for a work written by Hippocrates himself, owing to the singular title adopted by Tachenius; and he fixed the date of the accident at rather more than 2000 years before the period at which it occurred! We observe that Orfila has repeated the mistake in the last edition of his work, 1843, tome i. p. 465. The reference there given is HIPPOCRATES, *Chymicus*, cap. xxiv.

A REVIEW OF THE "VESTIGES."

THERE are few of our readers who have not seen or heard of a work entitled "*The Vestiges of Creation*." During the height of its popularity the work was abused and praised on a large scale. There was not a science in which the unknown author did not find himself at home: but physiologists, chemists, and geologists, equally complained of the freedom with which he dealt with their facts and theories. As a general reply to the numerous notices of his work, the author contended that *scientific* men, as a class, were not capable of acting as critics*. We have lately met with the following notice of the work by a popular writer—one who belongs to the non-scientific class. The following passages are extracted from a conversation between two persons in reference to the book, which is more correctly entitled, "*Revelations of Chaos*."

"The subject," observes the eulogist, "is treated scientifically: everything is explained by geology and astronomy, and in that way. It shows you exactly how a star is formed: nothing can be so pretty! A cluster of vapour—the cream of the milky way—a sort of celestial cheese,—churned into light. * * * But what is the most interesting is the way in which man has been developed. You know all is development. The principle is perpetually going on. First there was nothing, then there was something, then—I forget the next—I think there were shells—then fishes: then we came—let me see did we come next? Never mind that, we came at last. And the next change there will be something very superior to us—something with wings. Ah! that's it: we were fishes; I believe we shall be crows. * * * It is impossible to contradict any thing in it; it is all science: it is not like those books in which one says one thing, and another the contrary, and both may be wrong. Every thing is proved—by geology you know. You see exactly how every thing is made,—how many worlds there have been,—how long they lasted,—what went before,—what comes next. We are a link in the chain as inferior animals were that preceded us; all that will remain of us will be some relics in a new red sandstone.

* See vol. xxxvii. p. 1045.

development. We had fins—we may say, in the wings.”—*Diurnal*.

FOR EMBALMING A DEAD BODY.

A French merchant, recently deceased, has brought an action for one hundred francs, (forty pounds) the amount claimed for embalming the body of the merchant. The executors have refused, on the ground that the plaintiff employed another person to perform the operation, and that the expense actually incurred was only one hundred and twenty (less than five pounds.) Pending the trial, the body of the merchant has been in legal custody, and the money has been paid by the executors into the hands of a court, to await the decision of the court!

There is not the slightest reason for disputing the payment of the money, no agreement upon other terms had been entered into by the plaintiff and the executors.

STATISTICS OF THE LEARNED PROFESSIONS.

A statistical document recently published in the *Moniteur*, it would appear that the liberal professions, medical men, the smallest number of criminals; the number is indeed so small, that it has been found impossible to fix a fractional number as with the other classes. Since the year 1829, not more than two physicians have been tried as criminals at the assizes. In ten years, from 1829 to 1838, there have been tried in the various criminal courts one thousand six hundred and seventy-nine prisoners, above the age of twenty years; among these were thirty-three lawyers, thirty-three tipstaffs, but not a single medical practitioner.

We fear that on this side of the Channel we have no claim to the amount of candour and honesty which is thus proved to exist among our professional men in France!

INFLUENZA AT MUNICH.

Influenza has prevailed extensively in a form at Munich, during the winter. Patients have been confined to their beds, being unable to move a limb for several days, and have suffered from severe pain about the whole of the body; convalescence has been accompanied by great distress.

APOTHECARIES' HALL.

A number of gentlemen who passed their exa-

mination and received certificates to practise on Thursday, 25th March, 1847:—Richard Swan Finch, Salisbury.—William Lascelles Norris, Stourbridge.—James White, Chester.—Henry Nicholson Settle, Leeds.—Thomas Armstrong Cammack, Spalding, Lincolnshire.

April 1st.—George Burton Payne, Birmingham.—Henry Ververs.—Thomas Balle Forster, Plymouth.—John Lane Cutcliffe, South Molton, Devon.—George Augustus Hartelbury Hepworth, Tewkesbury.—James Tarzewell, Dorchester, Dorset.—George Herring, Yarmouth.—John Ingman, Trenddyn, Flintshire.—William Nowell, Dewsbury, York.—John Jessup Sewell, Fendrayton, Cambridge.

PATIENTS ADMITTED INTO THE LONDON HOSPITALS IN 1846.

FROM an annual return, just made, it appears that the number of patients admitted into the hospitals of St. Bartholomew and St. Thomas during the past year amounted to—

In patients . . .	5,831	3,692
Out patients . . .	19,738	26,928
Casualty patients . . .	31,536	

Total . . .	56,117	30,620
Died . . .	383	249
Under cure, In . . .	493	428
Out . . .	2,798	1504

BETHLEHEM HOSPITAL.

Patients admitted in the year 1846:—

Curables . . .	{ Males . . . 125
	{ Females . . . 168
Incurables . . .	{ Males . . . 3
	{ Females . . . 0
Criminals . . .	{ Males . . . 14
	{ Females . . . 3

Total . . . 313

Discharged cured—Males, 66; Females, 95. Uncured—Males, 25; Females, 62.

OBITUARY.

M. Auvity, Chief Surgeon to the Municipal Guard of Paris, Knight of the Legion of Honour, and Surgeon to the Foundling Hospital, died recently very suddenly while returning home in his carriage from a morning visit. The cause of death was angina pectoris. He was buried with military honours.

At St. Alban's, on the 30th ult., aged 53, universally esteemed and regretted, John Coates, Esq. surgeon, one of the magistrates of the borough.

Selections from Journals.

IS THERE ANY ANATOMICAL CHARACTER WHICH WILL ENABLE US POSITIVELY TO DISTINGUISH A CANCEROUS FROM ANY OTHER KIND OF GROWTH?

(Communicated by the author.)

A CANCEROUS growth may contain the following elementary structures:—1. Molecules and granules; 2. Nucleated cells of various shapes; 3. A filamentous or fibrous tissue; 4. A viscous fluid; 5. Blood-vessels; 6. Fatty matter; 7. Pus, and compound granular cells; 8. Black pigmentary matter; 9. Earthy matter. Of these, some are accidental or only occasional, and others essential or invariably present. The essential elements of cancer are, 1st, A fibrous mesh-work, or stroma; 2dly, Nucleated cells; 3dly, A viscous fluid in which these float.

The fibrous tissue of cancerous growths exactly resembles that found in lymph, or in the healthy tissues of the economy. It may be formed either by deposition or by means of cell growth. In the former case, filaments more or less delicate, and closely aggregated, may be seen crossing each other or running in bundles, forming various kinds of mesh-works in which the cells of cancer are deposited. In the latter case, we can observe fusiform cells splitting up into fibres, and are able to trace their formation from round, oval, or caudate cells, until perfect fibres are formed. These cells (called by Lebert *fibro-plastic*) are of a round or oval form, varying in size from the 1-100th to 1-50th of a millimetre in diameter. Sometimes they possess a distinct nucleus, about the 1-130th of a millimetre in diameter; at others, contain only several molecules and granules. Acetic acid causes these bodies to undergo very little change. They become somewhat paler, but there is no marked difference in this respect between the nucleus and cell wall. These cells, in their different stages of development into fibres, have been frequently mistaken for those of cancer;—Müller placed them among cancerous growths; and hence the erroneous opinion, that the caudate or spindle-shaped cell is characteristic of cancer. Fibrous tissue may be arranged so as to form loculi, containing a viscous fluid with or without cancer cells, constituting the colloid tissue of authors.

The nucleated cells peculiar to cancer vary greatly in shape and size. Sometimes we see nothing but oval bodies about twice the size of a human blood globule, or closely resembling, except in colour, the oval blood corpuscles of the llama or camel. They measure about the one-seventy-fifth of a

millimetre in length, and 1-100th or 1-120th of a millimetre in breadth. These oval bodies are the nuclei of cancer cells. Sometimes they exist alone; at others, we may observe, by careful management of the light, a round or oval delicate cell wall, frequently resembling a mere shadowed halo, in the fluid of which it floats. On adding acetic acid to them, we find the cell wall disappear, whilst the nucleus becomes more distinct than formerly. Such is the character of a cancer cell in its young state. At a more advanced period of development, the cell wall is more distinct. The nucleated structure is now round or oval, its medium diameter being about the 1-50th of a millimetre, with a round or oval nucleus about the 1-100th of a millimetre in diameter. The addition of acetic acid always produces a remarkable change in these bodies, causing the cell wall to become very transparent and faint, and the nucleus to assume an unusual degree of distinctness. Hence the author considers that Dr. Walabé has committed a fundamental error in the histology of cancer, when he says, p. 33 of his treatise, that "the ultimate microscopical cells of cancer are insoluble in cold and boiling water, and are not seriously affected by acetic acid."

[Dr. Bennett minutely described the further growth of these cells, which he illustrated by diagrams, showing how they multiplied from cell rising within cell. It is owing to this cellular structure that cancer owes its reproductive power which constitutes its malignancy. The cells occur isolated or in groups, surrounded by the other elements of the growth, but more especially by the fibrous tissue.]

The third essential element in cancer is a gelatinous fluid. On cutting through a scirrhus tumor, however hard it may be, we may generally succeed in scraping from its surface a fluid more or less transparent. In soft cancer it is more abundant, and contains the granules and cells previously described. In some forms of cancer, however, it constitutes a very large proportion of the mass, presenting a gelatiniform or mucilaginous appearance, varying in colour from a pearly white to a deep amber, and in consistence from a slightly viscous fluid to a firm semi-solid mass. Collections of this kind may occur in loculi formed by fibrous tissue, or in cystic tumors perfectly structureless, or containing only numerous molecules and granules, constituting the simple colloid tissue of Gluge and Lebert. When associated with cancer, however, it contains a greater or less number of the cells previously described, in various stages of their development. In the case just narrated by Dr. Paterson, the gelatinous matter within the loculi of fibrous tissue contained numerous cancer cells in an advanced stage

of development, enclosing secondary and tertiary corpuscles, all of which presented the characteristic reaction on the addition of acetic acid.

It is the relative amount of the three essential elements of cancer now described, which constitutes its peculiar form. If the fibrous element be in excess, it constitutes scirrhus. If the corpuscles be numerous, encephaloma is produced; and if the fluid abound, and is collected into loculi, we call it colloid cancer. There is no other difference between these three forms than this, and Dr. Bennett expressed his conviction that there was no essential distinction between them. He pointed out that we frequently find all these forms of cancer in the same tumor, in one place scirrhus or hard cancer, in another encephaloma or soft cancer, and in a third gelatiniform, alveolar, or colloid cancer.

The non-essential elements of cancer, such as blood-vessels, pus, fatty pigment, and earthy matters, &c., modify the external appearance of the growth in particular cases, but are not constant. Want of time prevented the author from entering into a consideration of these anatomical complications.

At an early period in the study of histology, it was natural to conceive that a certain *form* of the cell should be thought characteristic of cancerous growths. The observations of Müller led to the belief that the caudate and spindle-shape of this minute structure was peculiar to them. Hence, we find him confounding certain tumors long denominated sarcomatous, and which wholly consist of fusiform cells, with cancerous or malignant growths. These, however, have no power of reproduction, and although often associated with cancerous cells, should not be confounded with them. From the results of many examinations, Dr. Bennett was satisfied that there is no one form of cell which can be considered as at all times characteristic of cancer. The caudate and spindle-shape of these bodies are common to fibrous structures in general, frequently seen in lymph, and especially in the exudation forming the granulations on ulcers, recent wounds, vegetations on the endocardium, &c. &c.

The *structure* of the cell and the action of acetic acid upon it is much more distinctive. If the corpuscles are in that stage of growth in which they present a distinct nucleus with contained nucleoli, and if on the addition of acetic acid their external wall be rendered more transparent, whilst the border of the nucleus is apparently thickened, they are highly characteristic of a malignant structure. But even this is not an absolute and invariable mode of distinction; besides, it is only applicable when the cells have arrived at a certain stage of development. Dr. Bennett had frequently

seen young epithelial cells under certain circumstances present all the characters just mentioned, with the exception of enclosed nucleoli, and undergo the same reaction with acetic acid. This is very apparent in some cases, where effusion has taken place into the lateral ventricles of the brain, when the epithelial cells of the choroid plexus become separated, swell out from endosmosis, assume a globular form, and if young, the cell-wall is partially dissolved in acetic acid, whilst the nucleus is unaffected. The same occurs with the epithelium of the bladder. He has found in the bladder a fluid having all the external appearance of pus, and on examination shown them to exist of round, oval, and caudate nucleated cells, exactly resembling those found in cancer, and acting with acetic acid in the same manner. Yet the lining membrane of the bladder, and ureters and kidneys, were perfectly healthy. We need not wonder, then, that epithelial cells have frequently been mistaken for those of cancer even by histologists, and that many growths, consisting of hypertrophy of the epidermis, or epithelium, as in several so-called cases of cancer of the lip, ulcerated warts, excrescences, &c., should have been mistaken for malignant growths.

Dr. Bennett stated that he was not aware of any tissue in which a fibrous and a cell structure, such as had been described, were combined, and he was, therefore, inclined to think, that whenever we find cells of this kind deposited between the meshes of a filamentous structure, we may be satisfied that cancer is present. If we trust to the form of the cell alone, we may confound epithelial growths with cancer: if we trust to fibrous elements alone, we may mistake sarcomatous growths for it. But in no case, so far as his experience had yet gone, can the two be associated without the existence of malignant growth. This character, then, he thinks one which will apply to all forms of cancer. In many cases, the form and appearance of the cells, to an experienced eye, will be sufficient; this more especially when they are fully developed, and the influence of acetic acid upon them observed. In difficult cases the conjoined character of the cells and fibres, and their relative position with respect to each other, will enable us to determine the point with more exactitude.

To arrive at a knowledge of these facts, however, considerable skill in the manipulation of the microscope is necessary, and a very intimate acquaintance with the healthy and morbid tissues of the body. To distinguish the relative situation of the cells and fibres, especially when mucous membranes are the object of investigation, a section, by means of Valentin's double-bladed knife, is also in most cases essential.—Dr. H. J. Bennett's Observations on Cancer.

PARTIAL DISLOCATION OF THE INFERIOR MAXILLA.

At a late meeting of the Surgical Society of Ireland, Mr. L'Estrange exhibited casts of the superior and inferior maxillæ taken from a gentleman who had been sent to him by Dr. Hatchell with partial dislocation of the lower jaw: there was a good deal of lateralization, but yet the deformity was so small in amount, and had come on so gradually, that the subject of the affection attributed it to irregularity in the teeth, and came to Mr. L'Estrange for the purpose of having one extracted. The neighbouring teeth had been extracted some time before with the same view; but the real nature of the case having struck Mr. L'Estrange, he inquired more particularly into the circumstances, and discovered that this gentleman had been in the habit of biting straws. This had been going on for three years, gradually producing the deformity that existed: the lower teeth of the dislocated side had of course entirely lost contact with the corresponding ones in the upper jaw, and the face had a very curious appearance, being drawn entirely to one side. Reduction was effected simply by means of a large table-spoon, with which a gradual and sufficient amount of pressure was made until the jaw shot into its original berth.—*Dublin Medical Press.*

METEOROLOGICAL SUMMARY.

Mean Height of Barometer	29.78
" " Thermometer	46.6
Self-registering do. max. 69° min. 20.3	
" in the Thames water — 47° — 44°	

^a From 12 observations daily. ^b Sun.

RAIN, in inches, .04: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 2.7° above the monthly mean.

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Mar. 27.

BIRTHS.	DEATHS.	Av. of 5 Wks.
Males.... 691	Males.... 484	Males.... 542
Females.. 685	Females.. 545	Females.. 526
1376	1029	1068

DEATHS IN DIFFERENT DISTRICTS.

(24 in number;—Registrars' Districts, 129.
Population, in 1841, 1,915,104.)

West—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326)	157
North—St. Marylebone; St. Pancras; Islington; Hackney	199
Central—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London	183
East—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar	226
South—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich	264
Total	1069

CAUSES OF DEATH.

CAUSES OF DEATH.	1848	Winter av.
ALL CAUSES	1029	1068
SPECIFIED CAUSES	1027	
1. Zymotic (or Epidemic, Endemic, Contagious) Diseases ..	129	83
<i>Sporadic Diseases, viz.—</i>		
2. Dropsy, Cancer, &c. of uncertain seat ..	103	113
3. Brain, Spinal Marrow, Nerves, and Senses ..	171	170
4. Lungs and other Organs of Respiration	246	254
5. Heart and Bloodvessels	37	33
6. Stomach, Liver, and other Organs of Digestion	64	70
7. Diseases of the Kidneys, &c.	14	8
8. Childbirth, Diseases of the Uterus, &c.	24	12
9. Rheumatism, Diseases of the Bones, Joints, &c.	7	7
10. Skin, Cellular Tissue, &c.	0	3
11. Old Age	57	51
12. Violence, Privation, Cold, and Intemperance	65	39

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	8	Convulsion	50
Measles	3	Bronchitis	84
Scarlatina	11	Pneumonia	72
Whooping-cough	23	Phthisis	129
Typhus	34	Dis. of Lungs, &c.	18
Dropsy	17	Tooth-ache	9
Sudden deaths	16	Dis. Stomach, &c.	7
Hydrocephalus	31	Dis. of Liver, &c.	16
Apoplexy	27	Childbirth	20
Paralysis	21	Dis. of Uterus, &c.	4

REMARKS.—The total number of deaths was 39 below the winter average. The mortality from diseases of the respiratory organs has fallen below the average.

NOTICES TO CORRESPONDENTS.

"Surgical Subscriber."—Mr. R. Cooper's Lectures will constitute a complete course, and will embrace all parts of Practical Surgery.

We are obliged to Mr. H. H. Watson, of Bolton-le-Moors, for a correct report of the important trial of Elizabeth Johnson.

Want of space has again compelled us to postpone the communications of Dr. Buchanan, Dr. Haworth, Mr. Whittle, and Dr. Wright, until the following number.

Dr. Botta's paper on Delirium Tremens next week.

The reports of various medical trials have reached us. These will be noticed in due time.

The cases forwarded to us by Mr. Stanley will be inserted.

We think it would be advisable that Dr. Snow should first address a letter to Mr. Tracy, making the inquiry contained in his note.

ERRATUM.—In Mr. Tibbs's letter, at page 612 of our last number, is an error which destroys the sense of the passage. At col. 1, 30 lines from top, instead of "from the quantity of ether," read "Pour the quantity of ether," &c.

RECEIVED.—Mr. Richardson.—The Liverpool Albion.—P. P. on the Iris Forage.

Lectures.

A COURSE OF LECTURES
ON
MEDICAL JURISPRUDENCE,
BY ALFRED S. TAYLOR, F.R.S.
Delivered at Guy's Hospital.

LECTURE XIV.

LIFE INSURANCE (concluded.) *Insanity—Has this disease a tendency to shorten life?—case in which it was decided that it had not—researches of Dr. Burrows—mortality among the insane in Esquirol's Asylum—tables collected by Mr. Farr—mortality in public and private asylums—ratio among paupers and the better classes—mortality in Bethlehem and Hanwell—Dr. Thurnam's researches—Insanity has a tendency to increase the rate of mortality. SUICIDE—condition in policies regarding suicide—improper verdicts at coroners' inquests—defective evidence leading to litigation—case—Does the provision apply to all cases of insanity, or to those only of *felo de se*?—cases of *Borradaile v. Hunter* and *Schwabe v. Clift*—difference of opinion among the judges—medical view of the question—frauds on Insurance Offices.*

Insanity.—When we are called upon to say what diseases have a tendency to shorten life, there is commonly no difficulty in giving a reply, since the name of the disease,—its known effects upon the body,—the degree of mortality produced by it, and its intractableness,—are data upon which an opinion may be easily expressed. There are some diseases, however, respecting which it is not so easy to return an answer; and among these one may be mentioned which has already given rise to discussion in a court of law. I allude to *insanity*. The treatment of this malady falls out of the usual line of practice; and there are comparatively few in the profession who have made themselves acquainted with statistical details respecting it. This may account for the very improper decision in the following case:—

In 1835 a trial took place at the York Assizes in which the question was, whether insanity had or had not a tendency to shorten life. The representatives of a clergyman brought an action against the Providence Insurance Company, to recover the amount of a policy effected on the life of a gentleman, which the Office refused to pay, on account of the party having been insane, and this fact having been kept from

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their knowledge when the insurance was effected. Several medical witnesses gave evidence on this occasion. One considered that insanity had a tendency to shorten life; another, that it had not; a third, who admitted that the deceased was labouring under insanity, did not consider that *his* mental state was such as had a tendency to shorten life. The judge charged the jury that the question for them to consider was, whether insanity had a tendency to shorten life, as, if so, this would make the concealment material. If insanity had such a tendency, they must find for the defendant; if not, for the plaintiff. The jury found for the plaintiff, on the ground that insanity had no tendency to shorten life, and that therefore the concealment was not material.

There is probably no case which more strongly shews the necessity for proper medical evidence on these occasions. The finding of the jury was contrary to all good medical experience, and was founded on a complete mistake. The researches of Burrows, Esquirol, Farr, and others, all shew that insanity has a most decided tendency to shorten life. So well aware are the insurance offices of this, that the existence or non-existence of insanity or mental derangement is now made a special question, to which an answer must be given in the declaration. The contrary opinion appears to have arisen from the hypothesis that insanity is not a disease, and in no way connected with a physical change of structure in the brain. Admitting this to be true, experience is decidedly against the inference based on it when we look at insanity in the aggregate of cases.

There was formerly an erroneous notion that insanity has a tendency to prolong life; but the researches of Dr. Burrows had shewn many years before this trial took place that the insane are more liable than the sane to various diseases, and that, when attacked, they sink more easily under them; hence the mortality is, *ceteris paribus*, above the average of the sane population. Among other diseases, the insane are very liable to attacks of paralysis and epilepsy; and paralysis, however slight, is commonly the forerunner of death in these cases. According to Dr. Burrows, the mortality in 100 of the insane was, in the

Wakefield Asylum (1819—1826) ...	24
Lancaster Asylum (1817—1825) ..	24.5
French Asylums (1822—1824) ...	22
Senavra (Milan) (1801—1826) ...	42.5
Cork Asylum (1798—1818) ...	30
York Retreat (1796—1819) ...	20
Glasgow Asylum	10
Dr. Burrows's Establishment . . .	10.3

In private asylums the mortality is always less than in public hospitals; hence the great

difference in the mortality in the two cases last mentioned. These observations were made many years ago, and refer to times when asylums were overcrowded and very badly managed. More recent researches shew that, by the introduction of an improved system of management and treatment, the mortality has been greatly reduced.

Esquirol states, that from 1826 to 1833 the mortality in his establishment at Charenton, comprising 2049 lunatics, during the eight years, was 1 to 3·75, *i. e.* nearly one-fourth, or 25 per cent. The mortality was greater among males than among females, the proportion of deaths in the sexes being as 2·9 to 1. In the last four years it was observed that the mortality became diminished,—a result which was ascribed to certain improvements made in the asylum. More than one-sixth of the patients had general paralysis,—always a fatal complication. With regard to idiots, there is commonly organic defect or malformation, and consequently a high rate of mortality. These subjects, Esquirol remarks, seldom live beyond the age of thirty years.

According to Mr. Farr, the average annual mortality at the Hanwell Asylum, out of 589 patients, was 16 per cent. of the males, 9 per cent. of the females, and 12 per cent. of both sexes. The annual mortality of both male and female paupers in the licensed houses was twice as great as the mortality of paupers at Hanwell, and twice as great as the mortality of lunatics in the licensed houses. The mortality increases in proportion to the number of lunatics collected together. Thus, in asylums containing on an average 265 patients, the deaths were 19 per cent.; in those establishments where the number of patients was on an average 17, the deaths were only 9 per cent. It is worthy of note, in relation to this question, that, out of 213 admissions at Hanwell, 15 were aged 60 and upwards; 1 was above 75; and 58 in 783 had been labouring under the disease between 20 and 50 years. It might be supposed that the great mortality of the insane was due to the confinement, unwholesomeness, and the usages of asylums; but it cannot be ascribed wholly to these conditions: it must be partly due to some influence of the disease; for, under the most favourable circumstances, it is at least three times as great as the average mortality of the general population at the same age. Mr. Farr has ascertained that the mean age of lunatics in asylums is from 35 to 40. The average age of the patients admitted at Bethlehem (1830-40) was 36 years; and the mean age of 213 admitted at Hanwell was 36·5 years. Now, in determining the influence of insanity in shortening life, it is proper to mention that the

mortality of the ages between 30 and 40 in England and Wales is only 1·2 per cent., and between 40 and 50 only 1·5 per cent. Even in cities at a corresponding age the annual mortality is not more than 2 per cent.; but the mortality among lunatics at Bethlehem, where dangerous cases are strictly excluded, was 9 per cent. At the Gloucester Asylum, where the patients are few and the treatment is highly successful, the annual mortality is 7 per cent. This appears to me to meet the objection that the mortality may be greater among lunatics assembled in asylums than among those who are under the care of their friends. It is therefore impossible, under the most favourable circumstances, to estimate the mortality in severe cases of insanity at less than 6 per cent., or three times that of the adult population.

I must here call your attention to other observations made by Mr. Farr on the rate of mortality according to the class of life of the patients. While in the better class of patients the mortality was 12 per cent., in the pauper class it was 21 per cent., and at one licensed house it was 27 per cent.,—a higher rate of mortality than was caused by the plague of London. To explain this difference, it is necessary to observe that the mortality is always greater in acute or curable cases than in chronic or incurable cases.

Mortality per cent.
Curables. Incurables.

St. Luke's and Bethlehem	11	6
Hanwell	12	8

This will be apparent from the table, and also from the fact that within the last half year of admissions at Hanwell the deaths were nearly 25 per cent., while between the fifth and eighth years after admission the deaths were only 7 per cent. The great mortality among paupers in licensed houses may therefore be partly explained by the fact that they seldom remain more than a year and a half in the houses.

Perhaps no institution more strongly shews the influence of insanity on the duration of life than Bethlehem Hospital, owing to the strictness with which patients are selected. Thus, no individual is admitted who has been insane for more than twelve months; no lunatic discharged as incurable from other establishments; no idiots or persons afflicted with palsy, epileptic or convulsive fits, or suffering from any dangerous disease; and, when dangerous symptoms come on, the patients are at once dismissed as improper objects, and thus probably die soon after they leave the institution. In ten years the dismissals as improper objects amounted to 16 per cent., and of these dismissals 53 per cent. included persons affected with paralysis and epilepsy.

Notwithstanding the careful selection thus made, the annual rate of mortality in Bethlehem was, per cent.—

Curables.	Incurables.	Criminals.
8·8	4·7	3·5

A large number of the so-called criminal lunatics cannot be considered to labour under insanity as a disease, but rather as persons held irresponsible for offences by the law. Many of them would not be under confinement except for the crime committed. The mortality therefore among them proves nothing.

This subject has been recently fully examined by Dr. Thurnam, of the York Retreat, and the result of his inquiries has confirmed the opinion that insanity has a decided tendency to shorten life. The table (an abstract of his tables) represents the results which he has collected from all sources. We find from this table that the average mortality among the insane, extending over many years, for this country and America, bringing the results down to 1843-4, was—

	Per cent.
In nine county asylums (paupers) .	13·88
Six county asylums (paupers and private patients) .	10·46
Bethlehem (selected cases) .	7·08
St. Luke's (paupers) .	9·98
(private patients) .	4·6
Eight asylums (supported by charitable contributions) .	8·93
Metropolitan licensed houses (one half paupers) .	14·68
Provincial .	9·85
Seven Scotch asylums (mixed) .	7·52
Ten Irish asylums (paupers) .	8·7
Five asylums (United States) .	9·56
General average .	11·86

The lowest rate of mortality, according to Dr. Thurnam, is to be found in the asylums mentioned in this table:—

Dundee (two-thirds paupers) .	5·78
Perth .	4
Schleswig, Denmark .	4·71
York Retreat (1796—1843) .	4·74

It is impossible to look at these tables, collected at different times and by different observers, without perceiving that, even under the most favourable conditions, the mortality among the insane is more than double and nearly three times as great as that which exists in an adult population at or about the same age. I have entered thus at length into this question: first, because it has an important bearing upon the insurance of the lives of the insane; and, secondly, because it is quite clear that the verdict returned by the jury at the trial at York in 1835

on a purely medical question, was entirely contrary to ascertained medical facts. In any case that may hereafter occur, you will perceive that we are in possession of sufficient data to give an affirmative answer to the question, and to declare that insanity has a decided tendency to shorten the duration or lessen the mean expectation of life; hence its concealment is likely to affect materially the interests of insurers.

Suicide.—We come now to another condition in policies of insurance, which is a stipulation in the contract, that, if persons who insure their own lives should commit suicide, the policy shall be void. Thus, a medical question may arise as to whether suicide was or was not committed in a particular case. A person may die from poison, wounds, drowning, or other forms of asphyxia; and it may be somewhat difficult to say in certain cases whether the death arose from accident, suicide, or from violence inflicted by another. Such cases are often left in great uncertainty at coroners' inquests,—the evidence received is imperfect or insufficient; since, in a case of sudden death, it is considered of little moment, provided there be no suspicion of murder, to make a strict inquiry. If the life of the deceased should happen to be insured under a policy containing this condition respecting suicide, the question may become of great moment to the interests of the insurers; and they will require clear evidence that the death was natural or accidental, and not suicidal, before paying the amount of the policy. The cause of death should therefore in all cases of violence be determined by the medical witness,—this will put an end to any dispute concerning the payment of the policy; and relieve the representatives from the trouble and expense of litigation. If the death be sudden, and any suspicious circumstances be left unexplained, it is certain that a civil action will follow. We are not, therefore, safe if, at a coroner's inquest, we suppose that we have only to satisfy a common jury by a hasty opinion expressed from an ill-conducted inspection, merely because it may appear to us quite certain that the deceased could not have been murdered. Should the deceased happen to be one of that class of individuals on whose lives insurances are commonly effected, the whole of the circumstances connected with the examination of the body, and the medical opinion of the cause of death, must come to light, and will probably be made the subject of a severe cross-examination. I have known several instances in which there have been painful exposures of this kind, because the medical witness thought any kind of evidence would serve the purpose of a coroner's jury. The verdict of a jury

at an inquest is not binding on a Company:—they have not only a right but often good reason to dispute it, and they very frequently exercise these privileges. The insurance companies are exposed to all kinds of frauds, some of these of a most fearful kind, actually leading, as in the case of burial clubs (a kind of life-insurance), to the perpetration of murder for the sake of the amount insured. I shall have to call your attention to a probable case of this kind presently: in the meantime I shall relate to you the particulars of a trial which took place before Lord Tenterden in 1832, in which Mr. Green, Mr. Key, and myself, were called upon to give evidence. This trial would not have occurred, but that the medical inspection of the body for the inquest two years before was most improperly conducted; and no satisfactory evidence of the cause of death assigned. As a sum of £10,000 rested upon the issue, the insurers felt that they had a right to demand a full and perfect inquiry. I suppress the names of the parties, as my object is to illustrate a principle, and not to give pain to persons some of whom are now living. I shall also in these remarks, make use of the depositions at the inquest, which were sent to me for examination, as well as of the evidence given at the trial two years subsequently.

In this case many facts, mostly of a circumstantial nature, induced the insurers to withhold the payment, on the ground that the party insured had committed suicide by poison. As I have observed, the death of the party took place two years before the action was brought: the body had been carelessly inspected for a coroner's inquest, and the contents of the stomach, without being subjected to any chemical analysis, had been thrown away. These circumstances placed great difficulty in the way of producing proof; and, in fact, so far as medical evidence was concerned, they left the question almost a mere matter of opinion. An application was made to me on the part of the insurance company, to know whether the exhumation of the body and any further processes of analysis would be attended with any benefit: but an answer was returned in the negative,—from the manner in which the first examination had been conducted; also from the fact that as the symptoms under which the deceased had died could only have been presumptively those of narcotic poisoning, it was altogether unlikely that, after two years interment, any trace of narcotic poison would be discovered.

The deceased, who, according to some of the witnesses, had been for some time in a low state of mind, returned home on the evening of the 19th Oct. 1830. The house in which he lived was undergoing repair,

his family were in the country, and the only other person residing in the house with him at the time was a man-servant. The account given by the servant was,—that his master returned home about ten o'clock in the evening, apparently in very good health: the deceased ordered him to place a decanter of wine, a tumbler, and a wine-glass on the library table, adjoining his bedroom. He then told him that he was going to take a composing draught, and desired that he might not be called the following morning: stating he would ring the bell if he wanted anything. His master then went to bed, but about twelve he, the servant, was awakened by a noise, as if the bar of the library shutters had fallen. On getting up he saw his master without a light, in the act of returning from the library to his bedroom, which adjoined it. This was about twelve o'clock. Deceased then took the light from witness, and again went to bed; on going up stairs ten minutes afterwards, witness found the light extinguished and the bedroom door of the deceased fastened.

On the next morning, at half-past nine o'clock, witness went to deceased's bedroom, and knocked at the door as usual, but received no answer. He went again at ten o'clock, but the door was still fastened, and the deceased did not answer when he knocked. The workmen, who were employed in the house, alarmed witness about noon by telling him that they had heard his master moaning. A ladder was then procured, and the room was entered by the window; the deceased was in bed, and appeared to have just died as the witnesses entered. A surgeon was immediately sent for, who was represented to have examined and tasted some liquid which was found in a tumbler on the table. Search was made for a phial, but none could be found; however, it was proved that there were on the library table a piece of blue and a piece of red paper, evidently the cover and wrapper of a phial, which were not there previously. It was also deposed that a cork and string were found in the fire place. The window of the library was open, the shutters having been unfastened.

The surgeon, who was called, stated that the body was lying in a composed state, the countenance somewhat pale. There was perspiration on the skin, with patches of a livid colour here and there distributed over it.

The body was inspected for the coroner's inquest by two physicians and two surgeons. An accumulation of putrid blood is said to have been found in the stomach, with an effusion on either side of the chest. The vessels of the brain were somewhat turgid, but there was no extravasation. The contents of the stomach were thrown away without any chemical analysis having been

made. It appears the only approach to an analysis was the drawing of a stick of nitrate of silver across the mucous membrane of the stomach at the time of the inspection. The cause of death assigned by these witnesses, was the rupture of a blood-vessel on the stomach. A verdict of death from natural causes was returned,—the body was buried, and it was supposed that all inquiry had ceased.

The cause of death assigned by the witnesses being considered altogether inadequate to account for that event under the circumstances—the suddenness of death in a person who was in perfect health the evening before—the absence of any sign of effusion of blood in the brain, so frequently met with in sudden death from apoplexy, together with the circumstantial proofs, which, although not very strong, afforded sufficient grounds for suspicion,—all of these facts induced the insurers to refuse the payment of the policy on the supposition of the deceased having committed suicide.

The circumstantial evidence not being itself sufficient to establish the fact of poisoning, additional evidence was required to determine—1. whether the cause of death, assigned by the witnesses at the inquest, was adequate to account for that event: 2. whether, if not, the facts proved relative to the death of the deceased were reconcileable with narcotic poisoning: whether, in short, death by poison was possible or probable.

Mr. Green, Mr. Key, and myself, were requested to give an opinion on these two points. With regard to the first, we said the cause of death assigned by the witnesses was inadequate and unsatisfactory. The blood found in the stomach was loosely described as half putrid and not coagulated: so far from its being proved that it had been effused during life, it was not improbable, from the hasty manner in which the inspection was made, that it had proceeded from some vessels divided by the examiners. Admitting that it had been effused during life, it was not a satisfactory cause of death, since it did not appear to have been effused in any considerable quantity. That it was not satisfactory to the inspectors appears certain from the fact, that they examined the stomach for poison by the rough experiment of drawing a stick of nitrate of silver over the mucous membrane. Further, gastric hæmorrhage rarely destroys life on a first attack, and is generally accompanied by vomiting of blood; but the deceased had never been subject to hæmatemesis, and there had been no sanguineous vomiting.

With regard to the second question, the facts proved might be explained by supposing that the deceased had taken a poisonous dose of tincture of opium: it might be contended that none of this was shown to exist in the

stomach; but it did not appear that any pains had been taken to ascertain this point. The deceased had died in about the period at which this poison operates fatally; and it was for the jury to determine from the circumstantial evidence, as the medical evidence wholly failed to throw light upon the subject, how far this was likely. We all agreed in this, that narcotic poisoning in the deceased's case was, so far as we could speak in the absence of an analysis, probable, inasmuch as the facts proved respecting his death agreed with this view, and the result of the medical inspection was by no means opposed to it. Then it might be said, were there no natural causes which might have destroyed life within twelve hours in the same tranquil way in which the deceased was supposed to have died? To this it may be replied, that apoplexy and other diseases might also have accounted for death, but there was no evidence from the inspection to establish the existence of these, and therefore narcotic poisoning, *ceteris paribus*, was, medically speaking, just as probable. In short, as the evidence was essentially of a negative kind, and there were two ways of accounting for death, either of them probable, it remained for the jury to decide from the circumstances which was the more probable. The real cause of death was thus made entirely a matter of presumption. It was impossible to swear that the deceased could not have died from the effects of a dose of laudanum.

The case thus amounting only to *suspicion*, and not to actual *proof*, a verdict was, of course, returned against the insurers.

There can be no doubt of the propriety of the verdict in this case, since the law always justly insists upon what the circumstantial evidence, combined with medical opinion, was here incapable of affording, namely, *direct*, and not inferential *proof* of death from poison. The insurers had alleged suicide by poison. This they were bound to prove by clear and distinct evidence. The plaintiff was not required to show what was the real cause of death. If, besides the paper wrapper, a phial which had evidently contained laudanum had been found, or the liquid in the tumbler, instead of being tasted and then thrown away, had been carefully analysed, or had the same cautious proceedings been adopted with regard to the contents of the stomach, clear evidence might have been adduced, which would have given a very different turn to the case.

In supposing that the deceased took laudanum, it was assumed that he had disposed of the bottle by throwing it out of the library window, which was found open, and the shutters unfastened: no traces of the composing draught which he had told his servant he should take, were found—not

even the phial, and the coloured wrappers of paper were not accounted for.

The only point that went against the presumption of narcotic poisoning was this. The man-servant swore on the trial that his master's bell rang about 9 o'clock. If this were true, the deceased could not then have been under the influence of a narcotic poison, as he must have walked across the room to have rung the bell. This would have given but *three hours* for the fatal operation of the poison, while most cases of poisoning by opium have proved fatal in from six to twelve hours. Still, opium has been known to cause death in a much shorter period. Dr. Christison met with a case where the person died in three hours, and Dr. Beck another where death occurred in two hours and a half. But on comparing the evidence of this witness at the inquest and the trial, there was a great discrepancy. He said nothing of a bell ringing, when examined at the inquest recently after his master's death (*i. e.* two years before the trial), when we may suppose the whole of the circumstances to have been fresh in his mind. He had also stated just before the alleged ringing of the bell, that when he knocked at his master's door, on going up to his room about 9, he received *no answer*. There happened to be only one bell in the house, and the four workmen employed about the house heard no bell ring during the whole of the morning. These four witnesses also deposed to a very important fact: they swore that between 11 and 12, hearing a groaning or a snoring in the deceased's bed-room, they proposed to the servant to break open the door and enter, but he objected, because, he said, his master was poorly, that he had taken a composing draught, and had desired him not to go near the room *until he heard his bell ring*. This he said two hours after the time at which he swore on the trial he had heard the bell ring, and went up to answer. This part of the evidence, then, which appeared to militate against the presumption of narcotic poisoning, appears to be unworthy of belief; but, by a strange omission, these discrepancies in the evidence of this witness escaped notice at the time.

This case is, in many respects, very instructive. It shows the importance, nay, the absolute necessity, of performing post-mortem inspections and chemical analyses for inquests in a careful and proper way. It also illustrates the principle, that, although suicide may be a ground for vitiating a contract of this description, the allegation must not rest upon mere medical presumptions or inferences, but upon direct and positive proofs.

A new medico-legal question has arisen of late years respecting this condition of policies. Is the death from suicide restricted

to cases of *felo de se*, or is it intended to include those cases in which the act has undoubtedly resulted from delirium or insanity? In some instances the word suicide is not employed, but the terms "dying by his own hands" are used. These, strictly interpreted, would include; not only all cases of *felo de se*, but also those in which the act arose from insane impulse, or even from accident; for a man who shoots himself in drawing a charge from a gun or a pistol, would undoubtedly die by his own hands. Neither insurers, until within a very recent period, nor insured had contemplated these difficulties: there may be no explanatory statement in the policy, nor will the text assist us in arriving at what was really intended by the parties to the contract in the use of these words in reference to self-destruction. One fact is certain; the law does not treat suicide as furnishing proof of insanity, notwithstanding the verdicts of coroners' juries may record, as they generally do, that the act was perpetrated in a fit of "temporary insanity." Upon this distinction an action was brought against the London Life Association (Dec. 1841) in the Common Pleas, to recover the amount of a policy of insurance, which, it was alleged, had been forfeited by a breach of contract in the deceased having committed suicide by drowning. The whole question turned upon the legal meaning of the words "*die by his own hand*," which formed the exception in the proviso to the payment of the policy. At the trial of the case, Mr. Justice Erskine told the jury that if the deceased threw himself into the river, knowing that he should destroy himself and intending so to do, the policy would be void:—they had further to consider, whether the deceased was capable of distinguishing between right and wrong at the time, or in other words, whether he had a sufficient knowledge of the consequences of the act to make him a *felo-de-se*. The jury found that the deceased threw himself into the river intending to destroy himself; and that previously to that time, there was no evidence of insanity. They were then directed to take the act itself with the previous conduct of the deceased into consideration, and say whether they thought, at the time, he was capable of knowing right from wrong. They then found that he threw himself from the bridge with the intention of destroying himself, but that he was not then capable of judging between right and wrong. The jury were here evidently perplexed with the strict meaning of the words right and wrong:—the first part of the verdict made the case one of *felo-de-se*, the last part made it one of insanity. The verdict was entered for the defendants, *i. e.* that the deceased was a *felo-de-se*, and that the policy was void.

The case was subsequently argued before the four judges in the Common Pleas, in May 1843: it was contended for the plaintiff, that according to the terms of the policy there must have been an *intention* by the party assured, to "die by his own hands;" and that an insane person could have no controllable intention. The judges differed; three considered that there was no ground for saying that the deceased was affected by an uncontrollable impulse,—on the contrary, the jury had found that he threw himself into the river, knowing that he should destroy himself, and intending to do so. In their opinion, the act was one of *felo-de-se*, and the policy was void. The late Chief Justice Tindal considered, that the verdict should be for the plaintiff, thereby leading to the inference, that the act of suicide was in this case the result of insanity, and not of a felonious killing, to which alone he considered the exception in the proviso should apply. It is probable that if the term "*suicide*" had been inserted in the policy instead of "*die by his own hand*," the decision would have been in favour of the plaintiffs: for to vitiate a policy from an accidental result depending on an attack of insanity and *flowing directly from that attack*, is virtually vitiating it for the insanity itself, although the insanity supervenes long after the insurance. In this respect, it appears that the learned Chief Justice took a sound and most equitable view of this question, so important to the interests of those who have insured their lives. It is impossible for a man to enter into a contract *against an attack of insanity*, any more than against an attack of apoplexy! The jury found that the deceased was irresponsible for the act, and it is clear that the insurers and insured intended no more by using the terms "*die by his own hand*," than the act of suicide. By the decision, therefore, they received the benefit of a wider interpretation than that which either party could have foreseen.

This question has again been raised in the case of *Schwabe v. Clift*, Liverpool Summer Ass. 1845. The deceased, whose life was insured, destroyed himself by taking sulphuric acid. There was clear evidence of his being at the time in a state of insanity. The jury here, under the direction of Mr. Justice Cresswell, returned a verdict for the plaintiffs, thereby deciding that the policy was not vitiated by the mere act of *suicide*, if this were the result of insanity. The learned judge held that to bring the case within the terms of the condition, the party taking his own life must have been *an accountable moral agent and able to distinguish right from wrong*. In this case the term "*suicide*" was used in the policy, which the learned judge held to imply "a

felonious killing." Supposing that the insured party was killed by voluntarily precipitating himself from a window, while in a fit of delirium from fever, this would be an act of suicide, or dying by his own hand; but it surely cannot be equitably contended that his heirs should lose the benefit of the insurance in consequence of an event depending on an accidental attack of a disease, which no one could have foreseen at the time of the insurance, and against which no one could guard. If this principle be not admitted, the decision which followed would appear to be against *alleguity*; if it be admitted, then it must apply equally to every case of suicide from mental disorder, the proof of the existence of this resting with those who would benefit by the policy." On an appeal, the judgment in this case has been recently reversed. The judges again differed. It was argued for the insurers that if a man retained just enough of intelligence to produce death by competent means, but was deprived of all moral sense, the policy was void. Against this view, it was urged by one of the judges, that whether the intellect was destroyed altogether, or only partially, it would make no difference. If death was the result of disease, whether by affecting the senses or by affecting the reason (thus leading to suicide), the insurance office was liable under the policy. If the act was not the act of a sane and reasonable creature, it was not an act of suicide within the meaning of the proviso. Those judges who adopted the opposite view held that the meaning of the words, as introduced into the exception, was—if the party should kill himself *intentionally*. The words included all cases of voluntary self-destruction. If a party voluntarily killed himself, it was of no consequence whether he was sane or not. The majority of the Court held this view, and a new trial was granted. Had all the judges been present to give their opinions, the decision might have been different, for five have already expressed themselves, at various times, in favour of the view, that the term "*suicide*" in policies, applies, as it ought to do, only in cases where there is no evidence of insanity; while four have declared their opinion to be, that it includes all cases of "*intentional*" self-killing, whether the person be sane or insane. It is difficult to understand how a man in a fit of delirium or insanity can be said to kill himself voluntarily or intentionally. Will and intention imply the judgment of a sane man in regard to all civil and criminal acts; but a delirious or really insane person acts under a delusion, and as the law would hold him irresponsible in regard to others, his representatives should not suffer for an act which he was himself incapable of controlling.

The decision in this case is of great

importance to persons whose lives are insured; for it may be made to govern others: and on this principle, a man attacked with delirium, and who during the fit precipitated himself from a window, and was killed, would be declared a suicide within the meaning of the proviso, and a policy of insurance on his life would be *ipso facto* void. If the meaning of the words is to be taken so strictly as this judgment would imply, the fact of insured persons accidentally killing themselves, would render a policy void where the words of the proviso were, "die by his own hands." There may be no intention to destroy life in such a case, nor can there truly be said to be an intentional killing, where a person destroys himself in a fit of delirium or insanity, although in both cases he is the agent of his own death.

It is satisfactory to know, that in order to meet what appears to be a very harsh construction of the terms in this proviso, some respectable offices have drawn up a new stipulation to the following effect:—"Although assurances made by persons on their own lives, who shall die by duelling, suicide, by their own hands, or by the hands of justice, become void, the policy shall nevertheless not be avoided so far as regards any other person or persons having a *bonâ fide* interest therein, acquired by assignment or by legal or equitable lien, upon due proof of the extent of such interest being made to the directors; and the said corporation will in such case pay or allow the amount of such interest to be ascertained as aforesaid, unto such person or persons accordingly. And if any person assured upon his own life shall die as aforesaid, the directors, if they shall think fit, will pay or allow, for the benefit of his or her family, any sum, not exceeding what they would have given for the policy, if it had been surrendered to the corporation the day previous to such decease." This of course does not apply to old policies.

I cannot conclude the subject of life-insurance, without calling your attention to one serious species of fraud which there is reason to believe has been successfully perpetrated in some instances in this country. The 14th George III., chapter 48th, enacts, that no insurance on life shall be valid unless the party insuring has a plain legitimate interest in the party whose life is insured. This was in order to prevent gambling in policies, and to guard society against the risk of the persons insuring, contriving the death of the insured for the sake of the policy. Unfortunately, however, policies of life-insurance are still bought and sold; and many possess them who can have no other interest in them than the desire that such policies

should speedily become claims. Their interest, it has been remarked, lies in the death not in the life of the insured.

A remarkable case was tried in this country some years ago, of which I take the following particulars from what I believe to be an authentic account. Two young women, the daughters of a deceased officer, with no other property than pensions of ten pounds a year from Government, lived a few miles out of town with a person who had married their sister-in-law, also in reduced circumstances. They all came to London as the winter was setting in, and took lodgings; and the elder girl having just attained her twenty-first year, was sent sometimes alone and sometimes with her married sister-in-law to no less than eight or ten offices, to effect an insurance at each on her own life. Being in full and vigorous health, she met with a favourable reception from several offices, although she could assign no other reason for wishing to insure her life than that she was told it was right to do so. Five offices granted policies, some for two, others for three years, for no less a sum in all than £10,000. This was during the months of October and November. On the 13th of the following December, when in perfectly good health, she made her will, leaving the money under the policies to her sister-in-law and this person's husband. On the evening of this day, the whole party, after having been to a public theatre, had a supper of oysters and porter. The female was seized with sudden and severe illness, and died on the 22d in convulsions, resembling, according to one witness, those which were the effect of a wound (tetanic). She was seen by a physician on the 16th, who attended her until she died. He deposed that she was labouring under pressure of the brain. It was stated that her sister-in-law had given her some powders which had produced violent vomiting. There was an effusion of serum on the brain to which death was referred. There is no account of any analysis of the contents of the stomach. We are told that the contents were minutely examined, and that there was no appearance of anything sufficient to account for death: but the person to whom they were handed was not called at the trial. The husband, as trustee, applied for payment of two of the policies which had been assigned to him, but this was refused. He then went to France with the whole of his family, and brought an action some years afterwards, through an agent, against the insurance company. On this occasion, the jury could not agree in a verdict. Another action was afterwards brought against the company, and the facts already stated came out at the trial. The Attorney-General said, that the plaintiff had left the country, and there was

good reason to believe that he would never again return to it. The judge charged the jury, that, whether murder had been committed or not, the executors could recover, provided the insurance had been effected *bona fide* on behalf of the deceased. His Lordship directed their attention to the extraordinary fact of this young lady, the deceased, having effected the insurances for only *two* years; and reminded them that no proof had been adduced to substantiate the reasons she had given to the various offices for so doing. By the assignment and wills made to the sister-in-law, the wife of the plaintiff, this person was placed in a situation in which the law would not allow any person to stand, namely, that of having a strong interest in procuring the death of a fellow-creature by unlawful means. The jury returned a verdict for the insurers, on the ground of misrepresentation and want of interest.

This case certainly afforded strong suspicion that death had been brought about by unfair means. I have been informed that strychnia was employed: but as no satisfactory analysis was made by a skilful chemist, it is now impossible to say. A case like this should again impress upon our minds the necessity for determining with the greatest possible accuracy the cause of death. Had there been a chemical analysis of the powders alleged to have been given by the sister-in-law, of the matter vomited by the deceased, as well as of the contents of the stomach,—a proceeding which would have been fully justified by the circumstances accompanying death,—we might now be in a position to say whether the deceased had really died from natural causes, as alleged by the plaintiff, or from some medicine exhibited to her shortly before death, as stated by the Attorney-General in his address to the jury. These material parts of the investigation were, however, omitted, and the cause of death is thus left a complete mystery.

WHOLESALE POISONING AT DRESDEN.

THE *Journal de Chimie Médicale* informs its readers that part of the population of Dresden has had a very narrow escape from being poisoned with arsenic under the following circumstances. A hawk of poisons for the destruction of vermin was admitted into a baker's premises, in order to carry on his operations. In some unexplained way the arsenic used by this rat-catcher became mixed with the flour. Those who had bread from the shop, were soon afterwards seized with severe symptoms of poisoning with arsenic. Although many were attacked fortunately not one died.

Original Communications.

PHYSIOLOGICAL EFFECTS OF THE INHALATION OF ETHER.

By Dr. BUCHANAN.

(Paper read to the Philosophical Society of Glasgow.*)

THE Council of the Society having thought that the discussion of this subject might prove both interesting and useful, and having applied to me to bring it forward, I complied, solely from the desire to render to the Society any service in my power; but certainly not from thinking my knowledge of the subject so exact, or my opinions upon it so matured, as to enable me to bring it forward spontaneously; but I hope to meet with indulgence for the imperfections you may find in the performance of a duty not sought for, but imposed upon me.

It has long been a desideratum in the medical art to lessen the pain of surgical operations—for as to removing it altogether, no rational man, even in his most sanguine moments, ever dreamt of it. It was at one time attempted to deaden the pain by means of opium; but the attempt was abandoned, because it was found impossible to administer the drug in sufficient doses to blunt sensibility without risk of more serious consequences. I need scarcely mention the more recent attempts by means of animal magnetism; for I hold the abandonment of an object so important by the professors of the mesmeric art, to be a tacit acknowledgment that they know themselves unable to attain it—that their boasted power is a deception, or, at most, has no influence but over the minds of a few hysterical females. Were it otherwise, the charge I make against them is a light one compared with the moral charge implied in their deserting so many sufferers whom they have the power to relieve.

I confess that when I first heard of the marvellous efficacy of ether in deadening the sensibility of the nerves, I received it with distrust, and thought it was to turn out just such another imposition as animal magnetism. X

* Communicated by the author.

am not ashamed to say this, because I think that every rational man ought to receive, in a spirit of scepticism, statements made to him in opposition to all antecedent experience. But I should have thought myself a very unworthy member of this Philosophical Society had I refused to inquire further, and shut my mind against the authority of facts. I have carefully examined the subject by actual observation and experiment, and I have now to state, as the result, that I am fully satisfied that the statements originally made to me were in no way exaggerated: that the inhalation of ether really has the power of suspending, for a time, the sensibility of the nerves; and that during the period of suspended sensibility, the most formidable surgical operations may be performed—amputation of the limbs, the dissecting out of tumors, and cutting for the stone—without any perception of pain by the person operated upon, and without reason to apprehend any bad consequences, either immediate or subsequent. I can honestly declare that I have seen all these, and many other operations performed: and that the patients, when put fully under the influence of the ether, gave no indications of feeling pain during these operations; and declared afterwards that they had felt none, which is the whole evidence that the case admits of. So great a triumph of the medical art I never expected to witness; but it should not excite feelings of exultation merely, but should be received with gratitude and with thankfulness, as a great boon which it has pleased the Giver of all good to bestow in his compassion for the sufferings of mankind.

When our wonder at results so unexpected has in some degree subsided, it becomes our duty to inquire in what way they are produced; because it is only when we come to understand the nature of this important agent, and the laws which regulate its action upon the human body, that we can expect to derive from it all the benefits which it is capable of imparting; to direct and modify it according to circumstances, and to avoid the dangers which, in the hands of the incautious and ignorant, it may, most unquestionably, occasion. It was to attain these important ends, and not to gratify a mere vulgar curiosity, that the Council of the Society

started this subject; and I am not without hopes that good may be done by the mutual communication of opinions, and that even the collision of them may serve to strike out some useful light.

That we may be better able to appreciate the new facts recently ascertained, let us first inquire what was previously known of the action exercised by ether upon the human body. I could state this in a few words if I were addressing a body of medical men, fully conversant with the subject; but I am persuaded that in addressing a general audience on such a subject, it will not be thought out of place for me to premise some general remarks as to the mode in which medicines operate on the human body; so that the place which ether occupies as a physiological agent may be the more readily understood.

Medicines, then, may be divided into four classes, according to the mode in which they affect the human body.

Those of the first class act altogether locally. We have familiar examples of them in mechanical agents applied to the surface of the body, in the diluted and strong acids, liquid ammonia, mustard, and cantharides, all of which produce inflammation and other local effects on the parts to which they are applied, but do not necessarily implicate parts at a distance. Ether and many other substances have a local irritant power of this kind, combined with a power of a more general nature.

The medicines of the second class operate by local sympathy: they are, in so far, local agents, that they must always be applied to the same spot, but the local impression influences distant organs sympathetically. Tobacco and other irritants applied to the nostrils operate in this way: the local impression they produce on the membrane of the nose is propagated through the nerves to the diaphragm and abdominal muscles, which are thus made to contract, and produce the act of sneezing; whence we name them *sternutatories*. Many important medicines operate in this way: many emetics, for instance, such as mustard, and the sulphates of zinc and copper, which, exercising an irritant action on the stomach, call into play sympathetically the muscles concerned in the act of

vomiting. Almost all purgatives also, such as castor and croton oils, jalap, senna, and aloes, act in this way: they irritate the mucous membrane of the bowels, and the impression is propagated by sympathy to the expulsive muscles. It is a most erroneous idea which some medical men entertain, that such medicines will operate when applied to the skin, for they can only operate when applied to the membrane of the bowels. Croton oil, for instance, when used as a liniment to the skin, or even applied to an abraded surface, never operates but as a local irritant. The medicines of the third class require to be absorbed by the blood vessels, in order to produce their effects, which are thereafter exerted on the organs of nutrition and secretion. Iodine is a good example of the former; nitre, squill, and turpentine, of the latter. Such medicines produce the same effects to whatever part of the body they are applied, provided it be an absorbing surface. Iodine and mercury act in the same way, whether applied to the skin or to the stomach. The medicines in the fourth class act on the nervous system, either after absorption, or directly. The former may be said to be their general mode of action; but there are some substances, such as the prussic acid, of which the effects are manifested so instantaneously that we can scarcely but suppose that the nerves transmit the impression with the rapidity of thought to the heart and brain.

It is to this class of substances that ether belongs. They are readily distinguished from all other medicines, by possessing the four following characters:—They do not act locally, like the substances of the first class, but on parts at a distance. They act in the same way to whatever part of the body they are applied. They are thus distinguished from the substances of the second class. From the substances of the third class they are distinguished by acting on the nervous system and the organs most intimately connected with it—the brain, the organs of sense, the heart, and the voluntary muscles. Lastly, they are, all of them, with a few exceptions, poisonous substances, if improperly administered.

The substances belonging to this class are known by the name of narcotics, or stupefants, from their pro-

ducing confusion of intellect, and deadening sensibility. They were at one time supposed all to operate in one way: first as excitants, and then as sedatives. But a more accurate knowledge of them has shewn that it is impossible to refer their multifarious effects to so simple a principle. There are, indeed, some of them to which the name of narcotics is altogether inapplicable; for, instead of diminishing, they exalt the sensibility of the nerves. Such, for instance, are the *nux vomica*, and the other substances containing the alkaloids, strychnia, and brucia; for an animal, under the poisonous influences of these substances, instead of being rendered insensible, feels a touch of the finger like a shock of electricity.

But the great majority of the substances in question really act on the brain as stupefants, but they affect other important organs too seriously to permit us to derive any advantage from the stupor they induce. Hellebore is the most powerful stupefiant we know, but it acts as a poison to the system. Camphor, while it induces stupor, brings on frightful convulsions of the muscular system, and prussic acid and foxglove exert a deleterious influence over the action of the heart.

The section of the narcotics to which ether belongs, instead of exerting a deleterious influence over the heart, have for their character to excite and sustain the action of the heart, while they produce upon the brain, at first, exhilaration, and at length stupefaction. To this section belong, *first*, alcohol, the distilled spirits, the wines, and other fermented liquors; and, *second*, ether, and some of the compound substances now named salts of ether, such as the nitrite and the chloride of ether, more commonly called nitrous and muriatic ether—I say some of these bodies, for the effects of all of them on the animal economy have not been ascertained.

It simplifies our subject very much to observe that alcohol is the active ingredient in the first series of these bodies, and ether in the second; so that we have merely to consider and contrast the effects of these two agents, alcohol and ether, on the animal economy.

[To be concluded in our next.]

**EFFECTS OF SULPHURIC ETHER
IN FACILITATING THE REDUCTION OF A
DISLOCATION OF THE FEMUR INTO
THE FORAMEN OVALE.**

By E. WHITTLE, M.B. Lond. M.R.C.S.

R. M., a strong muscular lad, æt. 18, applied for relief on Monday the 22d of March, in consequence of an injury received on the Saturday previous, by a fall from the bowsprit of the *Guadalquivir*. The accident occurred at the launch of that vessel. He had been carried directly to the nearest hospital, but his mother insisted on removing him home, and would not allow anything to be done for him. A practitioner saw him on Sunday, who recommended eight leeches being applied to his groin. On Monday afternoon he was found sitting on a chair by the fire, his right foot on the fender, his left supported on another chair leaning on the outer ankle, the thigh and leg semiflexed. The awkward way in which the left knee hung outwards as he sat, made me suspect immediately the nature of the accident; and a careful examination soon satisfied me that the head of the femur was dislocated into the foramen ovale. The groin was swelled, hard, and painful, with considerable ecchymosis; when the knee was rotated the head of the bone could be felt under the swelling, though not very distinctly; the natural prominence of the trochanter had given place to an absolute hollow, at the bottom of which the bone could be felt; the knee was directed away from the other leg; the leg lengthened two inches. When he was supported standing erect on the right leg, the left foot could not be approached nearer than twelve inches to the right; the toes were neither everted nor inverted, but the foot was carried forward. An hour was fixed for our returning to effect the reduction, but in the meantime his father carried him off to a notorious bone-setter. This gentleman, after modestly informing the patient and his friends that it was a very serious accident, and that no man in Liverpool but himself could reduce it, proceeded to drag at him for an hour and a half, and then gave up the case, recommending them to take him to the Infirmary.

At nine o'clock in the evening, he

consented to our undertaking its reduction, and we accordingly set to work immediately. We had him in a very inconvenient place, a small room 10 ft. by 9; he lay on a straw bed so thin that he might as well have been on the floor. We could only make extension by driving strong staples into the floor.

From his great strength of muscle, and the excitement he was labouring under, we found that we could make no impression on him without using measures to depress his strength: accordingly he was bled to xxviiij . Tartarized antimony given repeatedly, until he was a good deal reduced. He took 11 grs. before the reduction was effected. He was very restless and unmanageable, and lay so close to the floor that we found we had not sufficient command of the limb to bring it into the right position, when it was fully extended by the traction of the pulley.

We then put him under the influence of ether: our apparatus was rather imperfect, and he was very untractable, so that we did not succeed in narcotizing him. He became stupid and intoxicated, talked incoherently, and did not complain of pain until he was pulled very tight. We found ourselves again defeated by his being pinned so tightly to the floor. The establishment did not afford a better or firmer bed, so that we were obliged to devise some means of effecting the reduction with such materials as we were provided with.

We rolled up the bed under the patient's pelvis, and added several folds of a blanket so as to raise his body five or six inches above the floor. He was now secured by a sheet passed across the perinæum and fastened to a staple driven into the floor above his head; another sheet passed round the pelvis was made fast to a staple driven into the floor by his left side. A light sheet was made fast above the knee by a clove hitch knot; to this the pulley was attached. Having got him fixed pretty firmly in this position, with his body a little raised by the doubling up of the bed, we put him partly under the influence of ether; then one directed the head of the bone by a towel passed across the inside of the thigh; another took firm hold of the dislocated limb, pressing his left foot

against the perinæum, and prepared to carry the limb smartly inwards across the sound one as soon as it should be fully extended; a third party took charge of the pulley.

On this occasion we succeeded within five minutes; he felt relieved from pain immediately, and declared that he had suffered little compared to what he had endured while in the hands of the bone-setter.

The bleeding, the antimony, and the ether, probably all contributed to produce this result. But we were satisfied that, in the inconvenient place in which we had to work, we could not have succeeded without the aid derived from the use of the ether. The first effect of the ether was to make him vomit violently. This might be expected after the quantity of tartar emetic which he had taken.

In conducting this affair, my friends Messrs. Arnott and Hobson, of the Liverpool Dispensaries, kindly afforded me their valuable assistance.

Park Street, Liverpool, March 1847.

THE ACTUAL CONDITION OF METROPOLITAN BURIAL-PLACES.

IN this country, distinguished above all others for a tenacious adherence to old customs, no matter how absurd, injurious, or reprehensible such customs may be, the progress of reform has always been slow. Yet, if ever there was a subject calculated to excite public attention, to arouse the indignation of the good, and ensure the aid of every philanthropist, it is that of abolishing intramural interments.

Let any one look with an unprejudiced eye at the actual state of the metropolitan burying-places, densely surrounded, as they too generally are, with a swarming living population. Let him examine the vaults crowded with dead, over which frequently, divided by a thin covering, he must sit during divine service. Let him reflect, that in the body and aisles of many churches and chapels, graves and vaults are employed for the interment of the previous living worshippers, and that the occasional opening of such vaults, charged with deadly effluvia, has produced serious and even fatal disease. Let him further reflect, that the entire practice is left to the "management" of the lowest class of the community, whose brutal fool-hardiness is stimulated by drink, and by the consciousness that their lives are worth little to themselves, and less to society.—*Mr. G. A. Walker's Second Lecture on the Metropolitan Grave-yards.*

ON VISION, AND ITS ASSOCIATIONS WITH THE MUSCULAR SENSE.

BY THOMAS HAWORTH, M.D.
Bolton.

THE importance of the feeling of muscular action in vision has not been properly appreciated. I think it capable of proof that the sensation of light, unaccompanied by feeling of action of the muscles of the eye, would be as vague as the sensation of smell or taste—void of form or local habitation in the outer world. The sensation of light may be looked upon as the rude material, and the muscles as the shaping power which cuts images out of a mass of light as a sculptor chisels them out of a block of marble.

Our knowledge of *position* is acquired by a sense of muscular action. This is proved by the movements of a spectrum: they follow those of the eye. The place on the retina occupied by the spectrum remains the same, but its apparent situation in the air is changed according as the eye moves upwards, downwards, or sideways. As we are made aware of these movements by a feeling of muscular action, it is to this feeling we must attribute the apparent motion of the spectrum, and therefrom our knowledge of its apparent situation. If we had not this feeling, we should judge the eye to be at rest, and, consequently, the spectrum would also appear to be at rest. We infer, therefore, that the situation of an object which we are directly observing is not known by this or that part of the retina being affected, but by the *direction* of the eye, which is communicated to the mind by a perception of the action of those muscles which effect that direction. We may say, with strict propriety, that our perception of this action of muscles is *identical* with the perception of the situation of the object.

We now come to inquire how we ascertain the position of side objects, towards which the eyes are not directed; so that, it may be objected, we cannot be supposed to derive information from the action of muscles. To have distinct vision, it is necessary that the rays of light should enter the eye in such a manner as to fall as nearly

as possible upon that part of the retina which is opposite to the centre of the pupil. To accomplish this, the eye must be so directed by its muscular apparatus as that its axis, being prolonged, shall touch the object. Amidst the numerous objects which are constantly engaging our attention, there are few which present themselves exactly in the optic axis; the range of vision is extensive, and rays of light are at all times entering the eye obliquely, and striking upon points of the retina far removed from the place where the vision is most distinct. We may readily conceive, therefore, how very frequently we move our eyes so that we may direct their axis upon an object we wish to examine accurately; there is thus induced *an association between every point of the retina and certain defined actions of the muscles of the eye*; consequently, whatever point of the retina receives a ray of light, the muscles which are required to direct the axis of the eye upon the object whence proceeds the ray are disposed for action. The existing condition of the muscles at the time the ray of light enters the eye, forms, of course, part of the process of association: thus, a certain point of the retina may have different associations according to the existing action of the muscles. When the eyes are turned sideways, a certain point of the retina will have different muscular associations to direct the optic axis upon an object the rays from which impinge upon that point, from what it has when the eyes are turned in another direction. Three circumstances, therefore, concur in this association—the existing condition of the muscles of the eye, a sensation on a certain point of the retina, and a certain action of the muscles which shall bring the axis of the eye upon the object whose rays cause the sensation on that point of the retina. This association is no more wonderful, and is more perfect, because infinitely oftener repeated, than that which exists between the sight of musical notation and complicated movements of the fingers, or between the sight of a written word and movements of utterance.

We are now prepared to explain how we obtain a knowledge of the position of objects out of the axis of vision, when, therefore, we cannot derive that

knowledge from the direction of the eye upon them. The explanation is based upon the fact *that there may be a feeling of muscular action without the reality*. When a point of the retina is affected by a ray of light, the associated muscles may have the *feeling* of action, though they remain quiescent. This is really no more than saying that one feeling may call up another by association,—that a grating sound may cause a sense of cold, &c. The feeling of muscular action may become as independent of actual muscular action, which was the first origin of the feeling, as the idea of a tree may arise independently of the actual presence of the tree. While dreaming, we have often the feeling of running, swimming, and sometimes flying with extraordinary rapidity; at other times we are conscious of making vain efforts to fly from an imaginary danger, as occurs in night-mare. In these cases we have the feeling of muscular action, though the body may be reposing tranquilly in bed. Giddiness consists in a feeling of gyratory movements, the body remaining motionless all the while. On disembarking after a voyage we experience feelings of motion without the reality. In the manner in which words present themselves to the mind when thinking, we have another example of muscular feeling without action. We are said to think in words, and, to a great extent, this is true; and it becomes a question in what shape the words present themselves, whether as heard, articulated, or seen in a printed or written form; but in some shape they do appear to us. In my own case I feel sensible of a still effort to articulate the words which present themselves to the mind in the act of thinking: there is the feeling of articulation without the reality. I may add that we are also very generally conscious of the sound of the word. Another example:—When we are composing ourselves to sleep, and fancy is busy at work, presenting vivid pictures to our view, our eyes, though closed, have the feeling of being wide open. But it is especially in vision that this feeling of muscular action without muscular movement takes place. We have shown that the apparent position of a spectrum depends upon the direction of the optic axis, made known to us by muscular feeling,

and have inferred that the position of all outward objects must somehow be ascertained by similar means; and, as we see lateral objects in the right direction without actually directing the optic axis upon them, we conclude that in this case, as in many others, there is a feeling of muscular movement without the reality,—that we have the *feeling* of directing our eyes upon the lateral object, though, in fact, the optic axis is directed elsewhere. This is brought about by the law of association, which, as mentioned above, has established a connexion between sensations on certain points of the retina and certain movements, or, which is the same thing, certain feelings, of the muscles of the eye.

The retina has other associations besides those with the muscles of the eye: for instance, it has been ascertained that the motion of the eye has a range of about 55 degrees in every direction, so that the axis of the eye cannot be directed upon objects situated at a greater angle; for instance, at our extreme right or left. It becomes necessary, therefore, to explain how we see an object so situated in its proper place. In this case an extensive association is called into operation between the point of the retina affected by the object and those muscles of the neck or body whose action would be supplementary to that of the ocular muscles, and enable an observer to have a direct view of the object. It will be easily understood that the muscles of the neck or trunk may have the feeling of muscular action when at rest as well as those of the eye.

Much perplexity has been caused by the apparent inconsistency that, while objects on the retina are inverted, we see them erect. It would be extraordinary if it were otherwise. We might just as well be surprised that a cart and horse are seen in the right position, inasmuch as the rays of light from the horse, supposing it to be on our right hand, strike upon the left half of the retina, and those from the cart on the right. Thus, the horse on the retina is opposite to the cart on the road, and the cart on the retina is opposite to the horse on the road. The fact is, the left side of the retina, which receives the rays of light from the horse, has become associated with

muscles which turn the eye or head to the right, and *vice versa*; and so, in respect to the inverted portions of an object on the retina, the rays from the shoe, or from the lowest part of any object, strike upon the upper part of the retina, which is associated with muscles which depress the eye or head; and the rays from the hat, or from the higher part of an object, strike upon the lower part of the retina, which is associated with muscles which elevate the eye or head; hence we see the man erect; for, as we have attempted to prove, the position of an object is known from the muscular feeling of directing our eyes upon it.

It is quite agreeable to our theory that the circle of light caused by pressure upon the eyeball should be seen in a situation diametrically opposite to the part pressed upon, for this part is associated with muscles which direct the eye to the point where the light appears to be seen.

Our notion of *visible extension* is also derived from muscular feeling.

When we wish to estimate the distance (extension) between two objects, we move the eye from one to the other, and, from the extent of movement, we ascertain their distance from one another, and this movement can only be ascertained by muscular feeling. Without actually moving our eyes from one object to the other, the distance between them may be appreciated by a feeling of action excited by association with points on the retina.

Again, let us watch a moving body: if our eyes follow the movement, the image of the body continues to occupy the same spot of the retina; therefore no change there can inform us of its motion; our knowledge must then be derived from feeling of action in those muscles which follow the body. Suppose, on the other hand, that the eyes, while watching the moving body, are at rest; how do we, in this case, gain information of its state of motion? Is it merely from its image traversing the retina? This cannot be, for we have seen that the idea of movement may be had, though the image remain upon one point. We must seek for the same cause in both cases. If, in the one case, when the eye follows the moving body, muscular feeling imparts the idea of motion, so it must in the other, notwithstanding there be no real muscular

action: for while the image is traversing the retina, it affects a succession of points associated with the same action of muscles which enabled the eye to follow the movements of the body. It is unnecessary to say that this association would be suggestive of a feeling of muscular action. It also appears that to have an idea of visible extension, it is not necessary that any notable extent of the retina should at any one time be affected; it does not matter how small the moving body may be if only visible, there is still the idea of extension. The spectrum, which appears to move as the eye moves, proves the same thing, for while moving it still occupies the same point of the retina, however small that may be, the idea of extension given by its apparent movement evidently depending upon the feeling of muscular action. We have taken for granted that the idea of motion includes that of extension; more properly speaking one ought to say they are identical, for motion implies change of place, and change of place implies extension.

It is evident when the eye views a continuous line it will move, or feel to move, along it, just as it moves, or feels to move, with a spectrum or moving body; the only difference being, that in the former case each successive object is different, while in the latter the object seen in each successive point of linear extension is the same.

[To be concluded in our next.]

THE TAPE WORM.

THE tape worm (*tania solium*) inhabits the small intestines of the human subject, but only in certain districts; it occurs ordinarily—indeed, almost exclusively—in Germany, England, Holland, Egypt, and the Levant. Commonly, there is found but one worm in the intestinal canal; sometimes, however, several are simultaneously present. It is pretty well ascertained that the innumerable ova which a single individual of this class may produce in a short time, cannot develop themselves in the intestinal canal of the patient, but must quit him in order to experience unknown changes out of his body. The manner in which this worm finds its way into the intestinal canal cannot yet be pointed out, but numerous reasons entitle us resolutely to reject the opinion that it may have spontaneously originated; we must therefore assume a transference from without. Its length may exceed twenty feet.—Vogel.—Day's translation.

REMARKS

ON DELIRIUM TREMENS.

By WILLIAM FRANCIS SOLTAU, M.B.
E Coll. Ball. Oxon.

ABOUT three years ago, I published a case of delirium tremens, with certain remarks, in your periodical,* and I then intimated it to be my intention, at some future time, to resume the subject. My attention having lately been directed to a case of a similar nature, presenting certain features of an anomalous character, I take the opportunity it offers me of fulfilling my promise, should you deem it and the accompanying observations worthy of a place in your columns. It happened in the person of a man about 46 years of age, who, though filling a situation of trust, which exposed him to the temptation of drink, had for eighteen years borne the highest character for honesty and the strictest sobriety. For some weeks previously he had been complaining of loss of appetite, morning sickness, and other dyspeptic symptoms, but he was able to follow his usual avocations till an attack of lumbago confined him to his bed. His medical attendant was then called in, who prescribed such remedies as soon relieved him; he became, however, from no apparent cause, very desponding about himself, could not sleep by day, and was restless and delirious at night. As, at the expiration of three or four days he did not improve, at the suggestion of his medical man, (who suspected the case to be one of incipient delirium tremens,) I was requested to see him late in the evening, when I found him in the following state.—Pulse 84, of good strength; skin soft but not perspiring; the conjunctivæ were much injected, but there was no pain in the head, or intolerance of light; urine was abundant, and very light coloured; tongue whitish and clammy; bowels were open. It should be here perhaps mentioned that he was subject to periodical attacks of the gout, and that he had lately been much worried by family troubles. He had no appetite, his countenance was anxious, his spirits were dejected, and he said he was certain he should die; there was

* Vol. xxxiii. page 274.

nothing hurried about his manner; he answered, collectedly, questions put to him; there was no tremor about any of the muscles, or that peculiar effluvia which occasionally emanates from the body of those labouring under delirium tremens. His great desire was that something might be given him enabling him to sleep; he was ordered a drachm of laudanum immediately, which was to be repeated in four hours, provided he did not sleep; cold applications were ordered to the head.

The next morning we found him decidedly better; *he had slept for five hours*, after taking the first dose of the opiate, and awoke, as he said, *feeling quite well*. He passed the day very comfortably, slept at intervals, lost his desponding feelings, and was cheerful and natural in his manner: it was thought advisable to give him the opiate again, and at night a similar result followed.

At our next visit the following day we thought him so much better, after the many hours of refreshing sleep which he had had, that we determined to omit the opiates altogether, as he expressed himself to be perfectly well. We were, however, contrary to our expectation, summoned to him early the next morning, when we were disappointed to find that he had not closed his eyes during the previous night. He had not been delirious, but he said he was afraid to shut his eyes, as when he did so he saw black objects before him. We ordered him a moderate opiate, to be taken every four hours, and a small dose of castor oil to relieve the bowels; a drachm of Liq. Opii sed. to be taken at bed-time, and repeated every four hours during the night if sleep did not follow.

The report which we received the next morning was very satisfactory. Our patient had slept for five successive hours after the second dose of the opiate. His manner was calm and collected, and his sleep had greatly refreshed him. He continued very comfortable through this day, sleeping quietly at times until 5 P.M., when he suddenly awoke, and imagined he saw a black person seated at the bottom of the bed, which so greatly terrified him that he dared not venture after this to shut his eyes. The contrast between his countenance at our morning's and evening's visit of this day was very

remarkable. It had lost all the calmness which sleep had given it, and it was now scared and staring. The night draught was ordered him as before. At our morning's visit, however, we found that it had been productive of little good. He had been very delirious and incoherent all the night. He had slept altogether about an hour and a half. There was still that frightened look about him. His manner was very hurried and busy. He complained of a sinking feeling, and was anxious to have some food. Pulse 80, of tolerable strength; urine free; no pain in the head. It was thought advisable to abstain from opiates during the day, holding them in reserve for the night. He was allowed a mutton chop for his dinner and a glass of pale ale. A drachm and a half of the Comp. Tinct. of Gentian was given him every three hours during the day. In the evening he told us he felt better. He had slept for about an hour during the day, had enjoyed his chop, and had been more tranquil. He requested to be allowed some supper, and we therefore ordered him a beef sandwich and a glass of ale; after which he was to take Tinct. Opii, ʒj. ex Mist. Camp. repet. 4tis horis, si non adesset somnus.

The report which awaited us the following morning was much worse. He had been delirious the whole night, fancying that persons were pulling at his extremities, which were constantly twitching. He answered questions rationally. Could not be persuaded but that persons had been ill-treating him during the night. He had not slept a minute. We now agreed, as opiates had failed, (for he had never refused to take his medicine as ordered) that we would try the sedative effect of a warm bath, in which he should remain 20 minutes. Previous to his leaving it cold water was to be poured on his head. Our orders were immediately obeyed, and after the bath he was much quieter, lost the twitching of the muscles, and felt inclined to sleep: pulse 72. We gave him a little ether and sal-volatile, as he complained of a sensation of sinking, which frightened him. We also allowed him to have a little brandy and water should he wish it during the night, and beef-tea ad libitum. We agreed to omit the opiate as he felt he should sleep. We paid

him an early visit the next day, and were again to be disappointed. He had not slept. His manner was very excitable, and he imagined that persons were in the house waiting to murder him. He had talked very incoherently, but knew those around him. During all this time there was no tremor or profuse perspirations. We immediately gave him a drachm of Liq. Opii Sed.; continued the Ether and Sal. Vol.; ordered him a mutton chop, as his appetite remained good, and beef-tea. We visited him again at the expiration of five hours, and he then appeared better. He slept for an hour, had enjoyed his chop, and he told us he thought he should now do well. He had been kept perfectly quiet, and his room had been darkened. His pulse was 84, bowels regular, and urine abundant. We then gave him two drachms of Tincture of Hyoscyamus, purposing to see him again at 9 P.M., when we again found him wild in his manner, his countenance flushed, and his eyes staring. We therefore determined to omit everything else, and to give him a drachm of laudanum every three hours till he slept, with beef-tea if he asked for it. After taking two drachms he slept for about two hours. He talked much during the night about his work, and he fancied he was engaged in his usual avocations. We thought him more collected when we paid him our morning visit, and he told us there was now nothing the matter with him. We made no alteration in our treatment, excepting that we increased the opiate to sixty minims at night, to be repeated as before. On the following day we were pleased to find that our patient had slept for four or five hours. His manner and countenance were more natural, and he was able to tell us the proper day of the week, which he had been unable to do the four previous days. We allowed him a beef-steak for dinner, drachm-doses of hyoscyamus in camphor mixture every five hours, and enjoined perfect quiet. At our evening visit we were again to be disappointed. It appeared that he had remained very quiet and rational up to 6 P.M., when suddenly he became excited and delirious. He did know where he was. He imagined that persons were in his room, whom he saw dancing around

his bed, and he heard voices below constantly calling him.—R Tincturæ Hyoscyami, ʒij. statim et repetantur 3tiis horis. Deinde si non adit somnus capiat Tincturæ Opii drachmam. Beef-tea during the night.

Again at our morning's call we were received with the intelligence that our patient had not closed his eyes since our last visit. He had been incessantly getting in and out of bed, and fancied he was hard at work. He did not know that he was in his own house. He told us that he was perfectly well, and was very indignant that he was not allowed to go out. There was no apparent loss of strength or symptoms of failing vitality. Urine was plentiful; pulse 84. He had dressed himself twice during the night. His appetite was still good. He had taken his medicine as ordered. We ordered him small doses of morphia every four hours, and determined to see him again at 2 P.M., when we found him up and dressed. We were told that it had been found impossible to keep him in bed. He was talking incoherently, and looked very haggard. We agreed to give him another warm bath, and try whether this would calm his excited condition. It was immediately prepared for him, and at our evening visit we thought him decidedly better. He had not attempted to get up since the bath, and though still very delirious, his manner was less excitable and hurried. He had slept for about half an hour. We now prescribed Morphiæ Hydrochlorates, gr. j.; Sp. Ammoniac Aromat. ʒj. ex Misturæ Camphoræ, ʒiiss. 3tiis horis.

At our early visit the following day he was sound asleep. We were told that he remained awake until 3 A.M., when the second dose of morphia was given him, and soon afterwards he fell into a sound slumber. From this he did not awake until 1½ P.M., when he took some nourishment, and again fell into a calm sleep. We now left the case to nature, and discontinued all remedies. He had an excellent night's rest the following night, and awoke the next morning perfectly conscious, and calm and collected in his manner. He then told us what his feelings had been previous to his getting sleep. It appeared to him as though he had been in a dream from the first day of my visit till the hour when he awoke

from the refreshing sleep which followed the second bath. He remembered nothing of what had happened, but felt that he now for the first time was himself again. From this time he continued to improve; he soon regained his strength, lost all his fanciful ideas, and after a fortnight's change of air resumed his usual business. At the latter part of his illness the urine was loaded with the lithates, and symptoms of gout showed themselves in the great toe, only, however, continuing twenty-four hours.

Such is an epitome of the case, the particulars of which have not been minutely described, as they would have occupied more space than the limits of your columns could afford them. The remainder of this paper will be devoted to the consideration of the subject in general in connection with the facts above detailed. Now it usually happens in delirium tremens that if we can secure our patient a few hours of sleep, he rapidly gets well; in fact, we consider our end attained when this result has followed our treatment. From the above history, however, it will appear that the reverse was the case, for when we were congratulating ourselves that our patient was recovering, from the circumstance of his having had many hours of refreshing sleep, both by day and night, for two consecutive days, then it was that the most marked and obstinate symptoms made their appearance. Instead of being better, he became worse than he had been at all. It is impossible to account for this, as every precaution was taken to keep him from anything which might excite him. It was on awaking from a sleep of two hours' duration that he first evinced the decided symptoms of what are very appropriately termed the "horrors," which were never more vividly depicted on any countenance. Twice after this he got continuous sleep for five hours, and though for a time he seemed better, yet the improvement was only temporary: for eleven days did the disease hold out against all remedies, and bid defiance to all treatment. Our only encouragement was the indication we received from the pulse that the vital powers of the system were not yet exhausted, and the fact, too, that our patient, during all his illness, never refused his food or medicine.

The tremor of the hands was not constant, nor did it manifest itself until at a late period. The busy manner, the look of apprehension, the constant reference to, and anxiety about his usual avocations, the peculiar illusions, the acute condition of every sense, were very characteristic throughout the progress of the case.

We must now offer a few remarks on perhaps the most important point connected with this subject, namely, the treatment of delirium tremens; and though we may have certain general rules to guide us, yet we are not to conclude that all cases are to be treated alike. And first as to the question of the abstraction of blood. None, perhaps, will question that general bleeding is to be deprecated under any circumstances, but as to the local abstraction of blood there may be cases where its use is indicated. Great caution is necessarily required in distinguishing where this remedy may or may not be safely used, and the following rules may somewhat guide us. If the patient under treatment be plethoric and of sanguine temperament, and complains of pain in the head, if there be much injection of the vessels of the conjunctivæ, if the countenance be suffused, and the head hot, and supposing the pulse does not exceed 90, and is of good strength, then a few leeches, or cupping-glasses applied to the temples, or behind the ears, may be productive of good. But under no circumstances are they to be used if the countenance be exsanguine, the pulse greatly accelerated, or if there be much tremor with profuse perspiration, and a determination on the part of the patient to refuse his medicine and food.

Secondly, with regard to opiates. Now though this class of remedies are our sheet-anchor by which we trust, in cases of delirium tremens, to weather the storm, yet in their administration they require a careful attention to the symptoms and stage of the disease in order that they may not be productive of mischief. How are they to be given? at what time? and in what quantity? are three important questions in connection with their use. Of the several preparations of opium, none perhaps acts more speedily or more certainly than the Tinctura Opii of our Pharmacopœia: but supposing, after having given it a fair trial for forty-

eight hours, our desired end is not attained, we must then have recourse to some other preparation. Time, in all these cases, is of great value, for if we are not gaining ground we are losing it fast. The Liq. Opii Sed. or the salts of morphia, if we can depend on the good quality of the latter, may be tried: and this leads us to say a few words on the quantity to be prescribed, and the time of their administration.

Large doses are to be given at the early stage of the disorder, so that if possible sleep may be procured without loss of time; but if, after a fair trial of opiates in their various forms, sleep does not follow, and, as it sometimes happens, the system, from want of rest, indicates symptoms of exhaustion, the pulse, for example, becoming 120, the countenance haggard and worn, with increased tremor of the muscular system, and profuse perspiration, then I would suspend them for a time, and for this reason, lest by their continued exhibition they should be productive of evil instead of good, in suddenly exercising their accumulative power on a system greatly weakened, and thereby unable to rally when depressed by their influence. Death may thus result from the remedy, and not from the disease. That this occasionally happens when opiates are largely given at the latter stages of delirium tremens, I cannot but believe, and having been particularly impressed with this fact in the sudden termination of one or two cases where this practice was adopted, I have thence drawn what I cannot but think is a wholesome caution on this point. In all cases of delirium tremens it becomes a subject of encouragement to us if the patient can be persuaded to take his food, for we are thereby able, to a certain extent, to supply the waste which the exhausting nature of the disorder produces in the economy, and thus sustain its vital powers. Under these circumstances opiates may be continued with safety; but, on the other hand, if we have given them largely, and no benefit has resulted from them, but we perceive that the strength of our patient is rapidly failing, as is often the case in this disease, then it is better, for a time at least, to turn our attention from this to some other remedy, and endeavour, if we can, to restore *the failing powers*; for it is better that

a case should terminate of itself fatally, than that its end should be hastened, if not actually occasioned, by the remedies that may be administered. With regard to stimulants, it is usual to select that which the individual has been accustomed to indulge in when in health, but it is very questionable whether their exhibition is indicated in all cases. Supposing the pulse continues firm, and there is no other sign of failing strength, they may be dispensed with altogether, and, in their stead, may be administered some form of tonic, as, for example, ʒij. of Comp. Tinct. of Gentian, in a bitter infusion, every three or four hours, a small quantity of laudanum being added to each dose; at the same time, nourishing diet is to be given, and attention paid to the state of the bowels, which are often confined. To relieve them, warm cathartics may be ordered in small doses, or a stimulating enema.

During the progress of delirium tremens it often happens that the patient becomes very restless, is anxious to go about his work, imagines that he hears voices summoning him to his post of duty, and cannot be persuaded to remain in bed. Under these circumstances how is he to be restrained? There are some who see no harm in his being permitted to follow his inclination to a certain extent, and they therefore would not object to his getting up and walking about his room, thinking that thus sleep may be induced. This, however, does not accord with my views, as, in my opinion, excitement and irritability, both of mind and body, would be thereby increased, rather than allayed. Instead of this, the room should be darkened, and we should first try what we can do by persuasion to keep our patient in bed; but if, in defiance of all our intreaties, he becomes more and more excited and self-willed, meeting any opposition to his wishes with violence, then it becomes a matter of serious moment to know in what way we are to act. Now it is at this particular juncture that the strait waistcoat is put into requisition, but often, we believe, with most disastrous consequences; for what happens? Why the feeling of restraint increases the desire to overcome it; and, when he becomes conscious that he is conquered, the patient strains every nerve to release himself from his bondage.

His anger calls to its aid all his remaining strength, and he makes one last and great effort to shake off his fetters. The less he finds his efforts available, the more excited does he become, and he continues vainly struggling with himself until his strength becomes gradually exhausted, and he sinks worn out. Believing, therefore, that evil, rather than good, follows the use of the strait waistcoat, we must look for some other remedial means wherewith to calm the excited condition above referred to, and we think that the tepid bath will be productive of the desired result. The patient may be easily induced to try it; and, having remained in the bath about a quarter of an hour or twenty minutes, he will leave it, less excited in his manner, with a desire to remain quiet. The sedative influence of the bath continues to shew itself for some time; and during this period, supposing there be no sleep, a large opiate may be given. With regard to the use of the bath in this disease, we think it may be always tried when opiates have signally failed in producing sleep or in tranquillizing the system, and its sedative influence will more than counterbalance its exhausting effect on the economy.

These are the few observations which I venture to suggest on the subject of *treatment* in cases of delirium tremens. Of its *causes*, its *diagnosis*, and *prognosis*, I shall not in this paper venture to treat, as I have already, I fear, been too prolix. The subject, however, is such an important one that I hope you will overlook this fault, and allow me in a future paper to consider the other points which have not here been discussed.

Plymouth, March 23, 1847.

PUNISHMENT OF AN ASSISTANT IN A LUNATIC ASYLUM FOR NEGLECT OF DUTY.

A MAN employed in an asylum as attendant on an individual labouring under suicidal monomania, has been lately brought before the Correctional Tribunal of Police, and sentenced to three months' imprisonment and fifty francs fine for neglecting his charge. It appears that in spite of stimulants which he had taken to keep himself awake, he fell fast asleep, and the lunatic then took the opportunity of committing suicide by hanging himself.—*Gaz. Méd.* April 10th.

MEDICAL GAZETTE.

FRIDAY, APRIL 16, 1847.

Ecce iterum Croninus! The result of Mr. Cronin's trial is, as our readers will perceive by the report which is given elsewhere*, a triumphant acquittal. In some remarks which we made a few weeks back, we intimated the possibility of legal sophistry being brought into exercise to prove that patients must in the natural course of things be occasionally poisoned, and that no one can be considered criminally responsible for the result. If people who are in moderately good health will consult a man who, with an Apothecaries' license, passes himself off under the imposing title of Doctor of Medicine on the strength of his possessing some German diploma,—if, after obtaining a prescription, of the nature of the ingredients in which they can know nothing, they will send this prescription to the nearest druggist, trusting to the bare possibility of his knowing more of the effects of the drugs than themselves,—they must take the consequences. The result of this case proves incontestably, that if death ensue under such circumstances, the apothecary-physician, at all events, is not to blame; because, although the accused ordered for his patient a series of poisons, including two preparations not known to dispensing druggists, and told her that his prescription might be made up *anywhere*, yet it was the business of the dispenser alone to set the matter right, and inform the patient that if she swallowed the prescribed dose she would be poisoned! To charge the apothecary-physician with manslaughter merely because he ordered a preparation not recognised in the Pharmacopœia, and of which he omitted to

* Page 695.

define the strength, although a reference to any chemical work would have informed him that many varieties of this preparation were very powerful poisons,—is simply ridiculous. No blame could possibly attach to him! It was not his business to specify which of the twenty-two varieties of bitter almond water he intended to be put into the mixture: the dispenser should have known at once which of these to select. The druggist should have further satisfied himself by careful experiments how many of the waters were likely to be poisonous, and have selected one which was not poisonous: his ignorance of the quantity of Prussic acid (as contained in them) requisite to destroy the life of an adult, could be no pretence for evading this duty!

We have no hesitation in saying, that the proper course for Mr. Corfield, the druggist who dispensed the medicine, to have pursued on this occasion, would have been to have sent away the messenger, and to have declined preparing the mixture. There were sufficient grounds for this proceeding in his own admission, that he had not two of the ingredients, the active nature of which he could not but have suspected; and he finally made up the medicine, with the omission of one, namely, the strychnine powder. Would this precaution, however, have saved the life of the patient? We doubt whether it would. Mr. Bell and Mr. Morson would have declined preparing such a prescription; but it is not clear to us that the majority of those who dispense medicines, are not much of the same stamp in regard to toxicological information as Mr. Corfield; and that if he had declined acting upon the directions, others would have been found to make a venture which would have equally led to the trial and acquittal of the apothecary-physician. We should still have had the development of this great legal

principle,—that, in reference to a charge of manslaughter, care in writing a prescription and in defining the strength and doses of powerful poisons prescribed in it, is of no importance; a man may display the grossest carelessness, and even ignorance, here;—he is not culpable, because the English law looks to the dispenser of the medicine to correct his mistakes and omissions. Any non-professional person would suppose that if such were the mode whereby criminal responsibility, in the event of death, was transferred from prescriber to dispenser, there would be at least some regard to the lives of the public in the shape of a law to prevent those individuals from dispensing medicines who had not undergone an examination to prove that they had a competent knowledge of the safe doses, chemical reactions and medicinal properties of poisonous drugs. But no—the law is not so careful. Any one who has sufficient assurance to call himself a druggist, may open a shop, and receive for dispensing to the best of his ability, such a prescription as that written by Mr. Cronin.

The result of the present trial shows that if a person should be unfortunately poisoned by carelessness in the prescriber on the one hand, and by ignorance in the dispenser on the other, the carelessness and ignorance are perfectly reconcilable with the legal irresponsibility of each of the parties concerned: in fact, the occasional death of a patient, from such a complication of causes, is one of those casualties for the occurrence of which every person rash enough to seek medical advice, must be prepared.

Then, again, we learn from the evidence, that if several poisons happen to be ordered in a Croninian prescription, the unfortunate dispenser with this lawful ignorance of their properties and doses, goes wrong if he even omits

one, i. e. if he gives the said public the remotest chance of an escape. The learned judge is reported to have given the following opinion: "to say the least of it, the act of pretending to make up a prescription sent by a physician (an apothecary?) without putting in *all* the ingredients in it, was most monstrous." This remark applied to Mr. Corfield's admission, that out of four poisons, he had been rash enough to omit one (strychnia), for the simple reason that he had not been able to procure it. "Such a proceeding," observed the learned judge, in reference to the omission, "was very dangerous in any case, and he was not prepared to say what the effect would have been in the present instance." The answer is, however, very simple: the introduction of the strychnia would only have rendered the mixture *more poisonous*, as Mr. Bell very properly stated in his evidence; its omission, therefore, rather tended to give the patient a possibly better chance of escape than she would otherwise have had. This part of the case appears to have been subsequently a little mystified by the physiological opinions of Dr. Robert Venables. He is reported to have said, "that if the strychnine powder had been added, although it would not have had any chemical effect, it would have acted *physiologically* (!) upon the system, and would have had a similar effect to ammonia in *neutralizing* (!) the prussic acid."

With respect to the alleged neutralizing properties of ammonia, as deposed to by Mr. Corfield and Dr. Venables, we shall have a remark to make presently: we propose at present to deal with the *physiological neutralization* of prussic acid by strychnia.

We are not aware of any case which bears out the assertion that strychnia possesses the property of so affecting the system, as to counteract physio-

logically the poisonous effects of prussic acid. But before thus flatly contradicting the statement previously made by Mr. Bell, to the effect that "the quantity (of strychnia) mentioned in the prescription, would in itself have been perfectly harmless," the witness should have ascertained whether the quantity prescribed in *this* particular instance, could in the smallest degree have affected the results. This statement, as to the neutralizing effects, was, however, made without any qualification, and in a way to lead the jury to suppose that by the introduction of the strychnia, the effects of the prussic acid would have been to a certain extent subdued or counteracted!

The quantity of anhydrous prussic acid swallowed by the deceased was about a grain (0.94 grs.) Had the strychnia powder been introduced, the proportion, according to Mr. Cronin's own showing, which the deceased would have swallowed, would have been not more in round numbers than 1-300th part of a grain.* After this we shall leave our readers to judge which is the more correct,—the statement of Mr. Bell or that of Dr. Venables. We are inclined to believe that the 1-300th of a grain of strychnia,

* Taking the mean of three experiments, one ounce of the mixture gave 6.25 grains of dry cyanide of silver, equal to 1.25 grains of anhydrous prussic acid. Had the deceased taken the dose ordered by Mr. Cronin (two tablespoonfuls), she would have swallowed this quantity of poison. She, however, took a tablespoonful and a half, whereby the quantity would be reduced one-fourth, or to 0.94 of anhydrous acid. At the adjourned inquest, at which Dr. Venables was present, it was stated by Mr. Venables, his son (see page 432), that Mr. Cronin's compound strychnia powder contained two grains of strychnia to half an ounce of sugar;—therefore the powder consisted of 1-120th of its weight of strychnia. As not more than two grains of the powder were ordered in the prescription, this was equal to the 1-60th of a grain of strychnia for the whole mixture, or the 1-360th of a grain for each ounce! The quantity of strychnia which would have been swallowed by the deceased, had Mr. Cronin's powder been put in, would therefore have been about the 300th part of a grain! It is obvious that the omission of this could not have in the least degree counteracted the poisonous properties of the prussic acid.

taken before or after, or when actually mixed with 0·94 grains of anhydrous prussic acid, would have no more physiologically neutralizing effect than the addition of an equivalent weight of brick-dust!

Although the counsel for the defence had succeeded in showing that Mr. Corfield possessed no scientific knowledge of the properties of the substances used in the mixture, the witness was ingeniously led by him, and permitted by the court, to state, that "the different articles mentioned in the prescription would neutralize each other;—the spirit of ammonia, for instance, would decompose the prussic acid." Dr. Venables, as we have seen, joined in this view on the *neutralizing* properties of ammonia. That any decomposition of the prussic acid would take place in the great state of dilution in which it existed in this mixture, is, we believe, unsupported by experiment and observation; that the acid would be *neutralized*, or have its properties, as a poison, destroyed, is altogether an inadmissible statement;—the quantity of ammonia prescribed being only one-fourth of what would have sufficed for the neutralization of the quantity of prussic acid proved to have been present. But the hypothesis of Mr. Corfield and Dr. Venables is contradicted by well-known facts. The hydrocyanate of ammonia is just as poisonous as hydrocyanic acid itself.* Orfila, in the last edition of his work, says of ammonia, in reference to its supposed neutralizing properties on prussic acid, "Whether prussic acid be given to dogs in a state of mixture with ammonia, or whether the ammonia, concentrated or diluted, be given after the poison has been swallowed, precisely the same effects follow, and the animal dies just as rapidly as if no

ammonia had been given."* There can be no doubt that this opinion based as it is on *facts*, and not advanced in the shape of an extempore hypothesis, represents the truth; and the evidence at this trial, therefore, furnishes a very striking proof of the facility with which the most gross absurdities may be received as undisputed facts in a court of law. This "Cronin" case, however, has an influence far beyond that which it derives from the pseudo-scientific evidence given on the occasion; that influence extends to the lives of the public, which are, by the result, left at the mercy of all sorts of prescribers and dispensers,—the neglect of the one and the ignorance of the other are not regarded as culpable; and while we are left to infer that according to that perfection of reason—the law—there was no criminality in this case,—no pains are taken by the legislature to prevent the recurrence of instances of a similar kind. They manage these things differently in France, as we hope to show in a future number.

We give the writer of the subjoined letter the benefit of a prominent place in our columns, as his epistle unquestionably brings to light a new view of medical biography.

32, Bridge Street, Southwark Bridge,
April 12, 1847.

SIR,—Being engaged upon the biographical sketches of the leading medical men, I shall be happy to call upon you to receive any notes that you may think requisite for the completion of your own notice. The work, in 8vo., is published at a nominal price, so that it may be circulated abroad as well as at home; consequently the expences are defrayed by the subscriptions at the rate of £1. 1s. per page.

I remain, sir,
Your obedient servant,
J. SCHMIDT.

To —

* See Christison on Poisons, p. 761. 4th ed. 1845.

* *Traité de Toxicologie*, 4me ed., 1833, Tome 2, page 263.

A guinea a page for that amount of immortality which is capable of being conferred by Mr. Schmidt, of Bridge Street, on the characters of "leading medical men"! Mr. Schmidt's plan of raising money, if not very creditable, is both novel and ingenious. We believe that no "leading medical men" will take any notice of the circular; but it is in order to warn those who may be disposed to speculate in this mode of advertising themselves, of whom we should hope there are few, that we here place this respectable circular before the profession.

Our readers will perceive that it is a cool request on the part of Herr Schmidt that medical men shall furnish him with laudatory notices of themselves and their writings, and pay him at the rate of *a guinea a page* for editing the said notices! If he can find a hundred customers at four pages each, he will be, on the whole, very fairly remunerated for his ingenuity. The work, we are informed, is to be published at a nominal price; but it appears to us that the price will be anything but nominal to the contributors; for, should a "leading medical man" be tempted to indite his own biography, or, as it is most delicately expressed, to prepare the "notes" requisite for its completion, he is not likely to be satisfied with four pages. The *furor scribendi* may be the means of carrying at once twelve or even twenty guineas into the pocket of Mr. Schmidt! Then it appears that, as an additional sop to professional ambition, the work is to be circulated abroad as well as at home; but we protest against this part of the scheme, as, in our opinion, the editor ought to be quite satisfied with allowing his contributors to make themselves ridiculous before their own countrymen.

That any person should have the effrontery to address such a circular to the respectable members of our profes-

sion, with the slightest hope of succeeding in this attempt to rifle their pockets by pandering to their vanity, shows how little the true character of medical men is understood and appreciated by a certain portion of the public.

Reviews.

Traité des Poisons, ou Toxicologie appliquée à la Médecine Légale à la Physiologie, et à la Thérapeutique. Par CH. FLANDIN, D.M. &c. Tome I., Paris: 1847.

A Treatise on Poisons in relation to Medical Jurisprudence, Physiology, and Therapeutics. By CHARLES FLANDIN, M.D. Vol. I. 8vo. pp. 752. Paris: 1847.

We should infer, from a close examination of this volume, that the author had commenced his work without having any definite plan, and with a very vague notion of its probable extent. The preface has a warlike tone, quite sufficient to prepare the reader for some severe attacks upon the contemporaries of the writer; and accordingly we were not surprised to find that MM. Orfila and Devergie, and their opinions, had come in for a tolerable share of vituperation. The author tells us substantially that the press may be divided into the Flandinists and the Anti-Flandinists, an opinion which, however true it may be in France, cannot apply to England. British medical journalists are not disposed to adopt a prejudiced view of the labours of a foreigner who is sincerely desirous of advancing a science to which he has devoted his attention; but they require that the labours of contemporaries should be at the same time fairly and justly treated, and that the author should leave to others the duty of pronouncing an opinion upon the merits of his own work.

We have just stated, that Dr. Flandin, in setting about his Treatise on Poisons, could have formed no idea of its probable extent. In a volume of upwards of seven hundred pages, he gives us the medico-legal history of only *one* poison—*arsenic*! If his treatise be continued on the same scale

with regard to other poisons, we may look for seven or eight additional volumes, especially as he is by no means economical of space. He has contrived to give this volume that *parvum in multo* character which is well known to book-making writers. Nearly two hundred pages are devoted to an introductory history of poisoning, beginning with Homer's *Odyssey*, and ending with the discovery of Marsh's apparatus. All this is not merely out of place in a work intended, as we are informed, for practical purposes, but it conveys the impression that its extent will either be illimitable, or the space assigned for the description of other poisons must be considerably contracted. The same spirit of elongation is apparent throughout the whole of the volume. Thus, in the first part, "*On Poisons in General*," we find a complete string of ancient and modern definitions of the word poison." Dr. Flandin thinks that they are all objectionable, and proposes to consider as poisons "those substances only which penetrate into the system *by absorption*, and produce dangerous symptoms, or even death" (195). Absorption is thus made the test of a poison, and what is not absorbed is not poisonous: yet he somewhat inconsistently admits that in certain instances poisons may act by affecting the sentient extremities of nerves. (197.) He takes no notice of the fact, that some substances have been found by competent observers to destroy life with greater rapidity than absorption takes place, according to Mr. Blake's experiments. He also forgets that the mineral acids, when swallowed, produce their effects independently of absorption: it appears to us, therefore, that he must either abandon his definition, or class these corrosive substances among mechanical irritants. Unfortunately, however, for his consistency, at page 333, in speaking of treatment, he describes the mineral acids and alkalis as poisons. Dr. Flandin considers his definition new, but we believe that it was first proposed by Mr. Blake some years since.

Resting upon the doctrine that absorption is indispensable to poisoning, that in fact it is poisoning itself, the author arrives at the three following conclusions:—

"1. That no poisons exist, or can exist, in a normal state in the human body.

"2. That in a case of poisoning, if death have been an immediate result, poison will undoubtedly be found in the substance of the organs.

"3. That poisons do not penetrate into, nor are they met with indiscriminately in all the organs. When once absorbed, they do not all escape from the system by the same channel, *e. g.* by the urine, as it has been too hastily asserted" (215.)

Iron, antimony, and iodine, are rapidly excreted with the urine; whilst copper escapes by the salivary or the bronchial secretion.

Dr. Flandin condemns the division of poisons into irritants, narcotics, and narcotico-irritants, and adopts the old classification of mineral, vegetable, and animal; but he assigns no satisfactory reason for departing from common usage. All classifications are more or less defective; that which the author has chosen to rake out of a dusty obscurity, appears to us to be wholly devoid of practical utility. Besides, Liebig and his followers contend that the terms animal and vegetable are obsolete; and by setting up a theory of compound radicals, they are trying to prove that every substance can be referred to the mineral or inorganic kingdom. In which of his classes will Dr. Flandin place kakodyle, alkarsine, or that better known compound hydrocyanic acid? The division which he makes is, in fact, as useless to the chemist, as it is to the physiologist and pathologist. Under the classification commonly adopted, we find that the *Cantharis vesicatoria* is an irritant poison: this gives us some idea of its *modus operandi*. Dr. Flandin would call it an *animal* poison, thus mixing it up with the poison of mussels, of the viper, of rabies canina, &c., agents which produce widely different effects on the body.

The author next considers the general effects of poisons, and the physiological and anatomical characters whereby a case of poisoning may be distinguished from one of disease. While there is nothing particularly novel in the treatment of this part of the subject, we may observe that the important facts upon which a medical jurist should rely are well brought out. Dr. Flandin has here contributed a few interesting cases which have fallen under his own observation. In discussing the treatment of poisoning, he

strongly condemns the employment of diuretics, as suggested by Orfila, in cases of poisoning by arsenic. The medicine, he observes, is not employed until the poison has fully entered the circulation; and at this period it will either have seriously disordered the animal functions, or its action will have become expended. In a case of poisoning our object should be to *prevent* absorption, not to promote it. If the poison be not expelled from the alimentary canal, diuretics can do no good, and may do harm by leading to more rapid absorption: on the other hand, if it be removed from the stomach and intestines, it is probable that the individual will recover without their aid. The poison probably passes off by the lungs and skin, as well as by the kidneys. Dr. Flandin adduces some instances in which the diuretic plan of treatment entirely failed, 331. According to him, the original proposer of the diuretic treatment of poisoning was not Orfila, but Galen (133), illustrating the old adage—*Nihil novi sub celo*. The section which follows is devoted to a description of the methods for conducting the chemical analysis of poisons, and for detecting poison in the remains of exhumed bodies.

The second part of this volume brings us to the special history of poisons; and the author commences with the history of arsenic. Dr. Flandin has here brought together nearly all that is known concerning this poison. The symptoms and post-mortem appearances are individually examined, and the anomalies occasionally observed in them are very properly detailed. Numerous cases, many of them derived from the author's own experience, are added. It is to be regretted that he has not adopted a better arrangement of his matter: the same question is often discussed two or three times over; and as there is no index to the volume, it is a matter of some difficulty to refer to the various medico-legal questions connected with arsenic. We must condemn the bad taste and ill-humour which Dr. Flandin has displayed in his attacks upon MM. Orfila and Devergie at pp. 343, 569, 731, and elsewhere. It is unbecoming a man of science, that he should, in a work intended for the instruction of the junior members of the profession, thus

indulge in gross personalities. *Humanum est errare*; and if we were disposed to be as hypercritical as Dr. Flandin, we could at once point in his volume to errors of fact and opinion as great as those which he imputes to MM. Orfila and Devergie.

This treatise is likely to suit only one class of readers—namely, those who are disposed to go deeply into the science of toxicology: but its value as a work of reference and authority must entirely depend upon the manner in which the author treats the numerous poisons which yet remain to be described.

Observations on Hydropathy; with an Account of the principal Cold Water Establishments of Germany. By J. STEPHENSON BUSHNAN, M.D. &c. 12mo. pp. 170. Berlin, and Churchill, London, 1846.

IT being nearly six years since Dr. Bushnan left England and an extensive consulting practice in Somersetshire, and the interval having been passed in many wanderings on the continent, and in the delightful task of administering professionally to the "necessities" of many of his countrymen, "and now that the education of his family calls upon him to relinquish the somewhat selfish pleasures of a wandering life, and obliges him once more to buckle on the harness of his profession, he sits down in the retirement of his own house, instead of taking his ease in the noisy bustle of an hotel," to endeavour to reply to the important questions which "often and often" have been put to him, of "what is hydropathy, and where is it best carried out?" These are probably considered by the observant and self-denying author to be questions which the profession, who claim him as a brother, have already fully decided in their own minds, and he therefore contents himself with addressing the smooth physiological and pathological disquisitions, elegant metaphors, and vivid descriptions contained in this very choice specimen of enamel-bound typography to that class of readers who are likely to be most interested and less critical in perusing its details; in fact to the non-medical portion of the nervous, dyspeptic, rheumatic, hypochondriacal, and hydromaniacal public.

This proceeding on the part of Dr. Bushnan, therefore, relieves us from the necessity of undertaking the fruitless task of weighing and sifting any of his semi-medical doctrines; for we acknowledge no works on the treatment of disease to be medical but those which are addressed to the medical profession at large, leaving such productions as this almost entirely to the fate which their authors, usually, most eagerly anticipate for them,—unbounded laudation in the review department of the penny periodicals, and in the final columns of the country newspapers.

We have merely to say of Dr. Bushnan's work, that it is by no means one of the least professional of its class, and that although several of the doctrines which it contains would gain the author a rather severe handling if propounded at any of our London Medical Societies, they do not, upon the whole, convey an idea that he is inclined to employ hydropathy otherwise than as an adjunct to other plans of medical treatment. Dr. Bushnan's sketches of the various cold water establishments of Germany are spirited and amusing, having only the fault of being most uniformly so delightfully eulogistic, that the reader is left in a state of painful uncertainty in his inability to decide which of these temples of health is to be preferred, on account of the romantic character of its envioning scenery, the purity of its baths, the skill and erudition of its presiding medici, and last, but not least, the cheapness and convenience of its charges and domestic arrangements. The only establishment of this kind, recognised by the doctor, to which he appears to be unwilling to give almost unqualified praise, is that of the mighty founder of the art, Priessnitz, who is now beginning to be regarded, even by his very pupils, as somewhat unscientific in his notions, and rough in his practice.

The following condensed abstract of Dr. Bushnan's description of Gräffenberg, and of the system pursued there, will, we think, be sufficient to prove that the "question by water" as employed at the fountain head of the hydropathic art, is as severe a test of the enduring powers of the human constitution as any that can be well conceived; being, as it appears to us, only second

in experimental severity to those trials which are applied to the sabre blades and howitzers at the Royal Arsenal at Woolwich.

"In fine weather, nature has surrounded Gräffenberg with many beauties; their duration, however, is but brief; a severe westerly wind soon replaces the more genial breezes, and blows during the greater part of the year; the cold in winter, which is so long and dreary, is intense, and deep snows frequently prevent all communication with the neighbourhood. A person "snowed up" must patiently wait the return of spring to escape from what has literally become his prison-house. Fine weather, however, and a brilliant though short summer, in some degree compensate by their beauties for the tedious winter. July, August, and September, are the only months that boast a summer; and in the latter the fruits are gathered and the harvest reaped. Snow generally falls in October, and seldom leaves the ground till June. The establishment of Priessnitz is on a very extensive scale; the large stone house was completed in 1839, and is said to have cost one hundred thousand florins. The dining, music, reading, and billiard room, appear to be upon a good scale; but immediately under the great dining-room is placed the kitchen, opening into it by a trap-door, through which the cooked food and various odours find entrance, whose perfumes are not improved by the villanous smells of water-closets placed near the dining-room door, and the fetid exhalations from sweating blankets and bathing-linen hanging to dry in all directions, the products of perspiration being sometimes of the most offensive description; indeed, the whole arrangement of the establishment was little adapted to English tastes and habits; as one example out of many will suffice to show. In the right wing of the large dwelling-house are two large and deep bathing tubs, one for the ladies, the other for gentlemen. To these there is but one entrance, and the lady coming from her bed in which she has undergone the sweating process, enveloped in her blanket, and her feet in straw slippers, to plunge into the cold bath, must avoid even looking towards the left. In the left wing of the same building are also two large baths and similar arrangements. The buildings afford accommodation for about 200 persons, but scarcely a third of the rooms have stoves, and cannot therefore be occupied during winter, giving rise, as the cold season sets in, to much quarrelling and intrigue to obtain possession of a room which boasts a fire-place. The rooms are all most scantily furnished, and provided only with a deal bedstead and straw paliasse, chest of

drawers, table, two or three chairs, wash-hand basin, and wine bottle for water, a drinking-glass, table de nuit, candlestick and snuffers, bootjack, and small looking-glass. Curtains and sofas are unknown, and the walls are neither painted nor papered. Although there is great room for improvement at Gräffenberg, it is some redeeming point to say that Priessnitz, acting upon principle, makes rich and poor fare the same; and hence every room is furnished in the same manner. He thinks the less comfort there is within doors the less time will patients spend at home; and he says that no persons ought to be in their rooms except for the purposes of cure or for sleeping. Upon the same philosophical and economical principle, the meals, although abundant, consist of the coarsest viands, for Priessnitz's system permits food to be taken in any quantity, and that of the coarsest and most indigestible description. He probably thinks the one will counteract the other, and that the coarser the food the less danger will there be of too much being taken.

"In this establishment the various baths are well supplied with pure and very fresh water, and in all directions cool fountains invite to drink. With the exception of a small one, the Douche baths are not in the house: they are provided in a neighbouring wood, where a few boards loosely nailed together afford the only means of a private bathing and dressing. They are ten in number, and constructed on the hill side, one above another. The three higher ones are for the ladies; the seven lower for the gentlemen. If the ten are occupied at the same time, the patient in the lower bath receives the shower which has administered to the nine above him. When the wind is very high, the douches, from not being protected from its influence, lose much of their character of great water-sticks, and become very powerful shower-baths. It is one of the standing rules of the house that the use of all medicine is strictly forbidden."

Practical Remarks on the Inhalation of the Vapour of Sulphuric Ether, &c.
By W. P. BROOKES, M.D. Pamphlet.
8vo, pp. 68. London: Churchill.
1847.

THIS is another addition to "ethereal" literature; but it is addressed as much to the public as to the profession. The pamphlet contains chiefly a summary of the author's experience on the utility of this agent in surgical operations.

Proceedings of Societies.

MEDICAL SOCIETY OF LONDON.

Monday, April 5, 1847.

MR. DENDY, PRESIDENT.

Pathology and Treatment of Laryngismus Stridulus.

MR. LINNEGAR, in reference to the case detailed at the last meeting by Mr. Headland, inquired if the convulsions preceded the difficulty of breathing. He had only seen convulsions in two or three cases of laryngismus stridulus; and in these instances the convulsions preceded the stridulous inspiration. The cases were all fatal. He related a case in which the convulsions were very frequent. After death some mischief was found at the base of the brain, but he did not know the nature of it. In simple cases of this disease, unaccompanied by convulsions, he had found the emetic treatment the most effectual. It had been supposed by some practitioners that the depression resulting from emetics was to be apprehended; but this soon went off. He could not agree in the propriety of lancing the gums in the extensive manner which had been recommended by some authorities, although, if the gums were tense, he generally incised them moderately.

Mr. LOWE related a case of laryngismus stridulus, attended by convulsions, in which the convulsions succeeded the difficulty of breathing. The child was 14 months old, and under the influence of teething. The gums were scarified, the secretions attended to, and a warm bath employed. The child had ten or twelve convulsive attacks at intervals of ten, fifteen, and twenty hours. The child was now well. In more simple cases counter-irritation to the spine, alteratives, and sedatives, seemed generally to fulfil the indications presented to us.

Mr. HEADLAND observed, that there was no disease respecting which opinion was more unsettled than laryngismus stridulus. We seemed to be ignorant of the remote cause of the attack, and of the means of treatment. At all events, great difference on these points prevailed. His own opinion was, that the disease originated primarily in the central plexuses of nerves, by which the pneumogastric nerve became irritated, and spasm of the glottis was the result. It had been said to have its origin in congestion of the brain; but this congestion, where present, was a secondary effect, and depended on the difficult respiration. Attacks of the disease seemed to come on under all circum-

stances, and in all conditions of the frame. In some cases the disease yielded to depletion; in others to antispasmodics and sedatives, the latter treatment being that most usually required. He related a case in which, after various remedies had been in vain employed, the disease gave way almost immediately under the use of asses' milk. In this instance the child had been brought up on farinaceous diet, milk, and tops and bottoms. These were given up when the asses' milk was employed. He had found benefit in some cases by painting the throat with dilute sulphuric acid, and syrup of poppies. In other instances change of air had been of service. With respect to convulsions, he had never seen them in these cases, except as the result of the difficulty of breathing. It was worthy of remark, that if a child laboured under a combination of symptoms, some of which required antiphlogistic remedies, the patient was liable to sink from exhaustion if the depletion was carried to any extent. Soothing and alterative remedies were more usually required. He thought that teething had less to do with the disease than had been supposed, as he had not found it connected with the symptoms in more than one case in five.

Dr. COPLAND considered that the disease was connected essentially with three distinct states of the system. Thus it might be the result of disorder of the digestive organs, of teething, or of irritation at the base of the brain. The last might be truly said to be, in some cases, the result of the spasmodic disease, but in some instances it was the cause. The causes, then, being different, the treatment must vary. It was occasionally associated with a plethoric habit, but more frequently with anemia. He had seen it frequently in children that had been brought up by hand, as the result of disorder of the digestive functions. In these cases it was usually simple. It was occasionally, though not very often, associated with teething, and in these cases lancing the gums was of service. The disease was sometimes attended by convulsions, and might be the result of pressure, from the thymus gland or other glands infringing on the nerves connected with the plexuses. In cases of a plethoric condition of body, the treatment must be in accordance with the indications. Attention to the digestive functions, to diet, the employment of antispasmodics and sedatives, the injection of turpentine and syrup of poppies into the bowels, the use of turpentine, with an anodyne, externally, to the neck, and a due attention to the secretions and excretions, formed a summary of the remedies which he had usually found of most service.

Mr. HIRD agreed with Mr. Headland, that in many cases the disease had its origin

in disorder of the digestive organs, resulting from the ingesta. He related a very protracted and obstinate case, in which, after all remedies had failed, a rigorous attention to diet, and the most careful preparation of the food, effected a cure. He did not consider bloodletting in any case desirable, if it could be avoided.

Mr. HOLDING said that the attacks of this disease were often so sudden, that life would be destroyed before either could be resorted to. In a case which had been painfully under his immediate and constant attention, the child died in a moment from one of these attacks, and the examination revealed no cause whatever for the disease. In this instance, the little patient had been brought up by hand, and he had attributed the disease to the loss of the natural sustenance. When out of town, the attacks in this case were less frequent.

Mr. STEDMAN had practised many years in the country without seeing a single case of laryngismus stridulus; he had seen it frequently since his residence in town. It would appear to be a disease more frequently attacking the inhabitants of large towns than those residing in country districts.

Mr. HEADLAND could not think that the causes of this affection were so various as did Dr. Copland. It was a special affection, and he thought that we should look for a special cause. If it were the result of disease of the brain, the cause would be in constant operation; but it was not so in these cases: the state of the pupil, too, was against this hypothesis. It was, in his opinion, the result of irritation in one part of the body producing special effects. He referred this irritation to the ganglionic system of nerves. Mr. Holding's case was in point; for although it proved fatal, dissection threw no light on the cause. He (Mr. Headland) considered that the primary origin of the disease was irritation of the pneumogastric nerve, resulting from defective aliment; that spasm of the glottis coming on, asphyxia was induced, congestion of the brain followed, and convulsions terminated the chain of phenomena.

Mr. LOWE related a severe case of laryngismus stridulus which had occurred at Henley-on-Thames. Most of the cases which he had seen had occurred in children brought up by hand, and who there was reason to think were defectively nourished.

Dr. CLUTTERBUCK considered that the hypotheses which had been advanced by the different speakers were generally untenable; they admitted of no proof. Looking at the disease in its most simple form, he considered it impossible to refer the crowing inspiration to any other organ than the larynx. It was evidently spasm, a spasmodic affection of the muscles of the part;

there was often no other marked symptom in the disease. We had no right to go to the brain for an explanation of this phenomenon, though he would admit that the brain was sometimes secondarily affected. What evidence had we that the digestive organs were at fault? How often were these organs affected, and crowing inspirations absent! He thought there was still less evidence that the nervous plexuses were involved. The spasm was a secondary symptom in these cases, the primary cause being irritation resulting from inflammation of the larynx. This inflammation was probably very slight indeed, but sufficient to bring on spasmodic action of the muscles of the organ of voice. The treatment which was beneficial in these cases did not militate against this opinion. Acting on this view, the indications were to lessen the irritability of the parts by anodynes and other remedies, and relieve the inflammation by counter-irritants. Beyond this we had nothing to guide us. The disease was not usually fatal, and, if so, it was in consequence of being complicated with other diseases.

PATHOLOGICAL SOCIETY OF LONDON.

Monday, April 5, 1847.

DR. WILLIAMS IN THE CHAIR.

MR. POLLOCK exhibited a specimen of

Abscess of the Cerebrum connected with disease of the petrous portion of the temporal bone.

The boy from whom the preparation was taken had been under the care of Dr. Wilson, and had enjoyed good health to within six weeks of his admission into St. George's Hospital, when he had an epileptic attack, which recurred a week after, followed by unconsciousness and involuntary discharge of urine and feces. From the last attack he gradually improved, continuing, however, in a half silly state, with ptosis of the left eyelid. He had had from early childhood pain in, and purulent discharge from, the left ear.

On admission, profuse foetid purulent discharge from the left ear; ptosis of left eyelid; dilatation of pupils, particularly the left; mouth drawn to the left side.

He died on the fifth day, coma having supervened on two distinct fits, the first of which occurred two days before death. The vessels of dura mater and surface of brain were found congested, the convolutions of the latter being much flattened; the surface of brain on the left side, and corresponding with squamous portion of the temporal bone, lighter in colour, and less consistent

than usual. The dura mater corresponding to this portion was healthy; the general structure of the brain highly vascular; and the lateral ventricles were considerably distended with limpid serum. Occupying the outer portion of the left hemisphere, and the greater portion of the middle lobe of the cerebrum, was a large abscess, the cyst of which was extremely firm and tough, and lined with a blackish sloughy membrane; it was capable of containing at least six ounces of fluid, and was filled with most offensive pus. The substance of the brain surrounding the abscess was much softened and pulpy, so that the cyst readily fell away from the surrounding parts when the brain was removed. The lower portion of the wall of the abscess was attached to the dura mater, where it covers the petrous portion of the temporal bone, and at this point a small communication existed between the abscess and the internal ear, passing through an ulcerated opening in the dura mater. The dura mater covering the petrous portion easily separated from the bone, but did not appear much diseased, though perforated by a small circular ulceration corresponding to the opening into the tympanum. The surface of the petrous portion was roughened and dark-coloured, and an ulcerated opening existed through its upper wall into the tympanum. The cavity of the tympanum was filled with pus, and the membrana tympani destroyed, and the internal ear. The other viscera were healthy.

MR. TOWNES had seen cases of diseases of the petrous portion of the temporal bone give rise to disease of the jugular vein, when the lower wall of the tympanum was affected; to contraction of the carotid canal, when the anterior wall was affected; and to inflammation of the osseous portion of the lateral sinus, (as he remarked was the case in the specimen shown by Mr. Pollock,) when the posterior and internal part of the petrous was particularly involved.

DR. WILLIAMS had met with a case of gangrene of the lungs induced by purulent deposits in the pulmonary capillaries, the lateral sinus having been affected from disease of the petrous bone.

MR. BUSK had met with two cases analogous to that related by Dr. Williams.

MR. LISTON exhibited three specimens.

Disease of the Trachea and Larynx,

taken from a patient who had suffered from venereal disease for three or four years, having been at different times treated with mercury. The attack was followed by gradually increasing dyspnoea and expectoration, which increased to such an alarming extent, that he came to London, where tracheotomy was performed. Some relief

followed the operation; the dyspnoea became somewhat less; but the expectoration was so profuse and foetid, as to lead to the idea of a foreign body being in the trachea or bronchi. It was deemed necessary to enlarge the original opening made in the trachea, and owing to the rigid state of the rings of the tube, the bone forceps were found necessary. He now went on favourably for a short time; but the dyspnoea and expectoration soon increased, and at the urgent request of the patient the opening was again enlarged, and the tube worn in the opening was passed lower down. During the operation a violent fit of coughing took place, and two or three pieces of bone were ejected. The patient died shortly after. The left lung was found inflamed at its back part, and there was pleuritic effusion on the right side, with old-standing adhesions. Small portions of bone were found in the left bronchus. The posterior part of the cricoid cartilage was entirely destroyed, its place being supplied by membrane, and there could be little doubt that the portions of bone expectorated were the body of the cricoid, which had undergone ossification.

Dislocation of the Astragalus,

which had become separated from its connexions with the os calcis and the bones of the legs, neither the tibia nor fibula having been fractured or separated from each other.

The contents of a large Inguinal Hernia, which were composed of a portion of omentum, with about two inches of ileum, of the cæcum, the ascending and portion of the transverse colon. The peculiarity of the specimen was the presence of a complete peritoneal investment to the large intestine, which was such, that a movement of vasculi could be produced, and reduction into the abdomen easily effected. In a practical point of view it was important, the opinion generally entertained by surgeons being, that herniæ of the large intestines were irreducible.

Mr. JAY exhibited a specimen of *Mulberry Calculus and enlarged Prostate.*

The patient, aged 62, tall and spare, and temperate in his habits, having restricted himself for years to a vegetable diet, eating large quantities of apples, pears, and oranges, as an habitual diet, and drinking only water. In 1846, symptoms of irritable bladder set in, which subsided under treatment till 1842, when they returned, accompanied by severe eczema and symptoms of heart-disease, together with dyspepsia. An attack of erysipelas came on in the leg in the following year. In 1845, bronchitis supervened, and the irritability of the bladder increased,

which, at the end of the year, subsided under treatment. From January to May he could walk some miles without inconvenience, and occasionally rode in an omnibus, the symptoms at no period being so severe as to lead to the idea of the presence of a calculus. He died oedematous at the end of May, the chest affection having rapidly increased. The result of extensive bronchitis was found after death, together with pleuritic effusion. The heart generally hypertrophied and dilated, with disease of the aortic and mitral valves. The kidneys had a granular aspect, and the bladder was hypertrophied. The third lobe of the prostate much enlarged, and just to its left side was a depression, in which was lodged the calculus. The lateral lobes about half as large again as their natural size. The urine removed had a specific gravity of 1030, was acid, and contained albumen. No oxalates were found. The calculus weighed 339 grains, and was very rugged and rough on the surface; and the following analysis of it had been made by Mr. Marshall:—

Water	5.0
Oxalate of lime	81.5
Urates of lime and ammonia	5.
Uric acid8 5
Phosphate of lime	1.6 5
Animal and colouring matter	3.3
Extractive matter }	2.7
Insoluble residua }	

100.

Mr. Jay alluded to the fact of the patient being capable of walking five or six miles without inconvenience, which circumstance illustrated the remark of Sir Benjamin Brodie, that an enlarged prostate, by preventing the stone from falling on the neck of the bladder, causes a considerable diminution in the sufferings of the individual.

Dr. QUAIN exhibited a

Microscopic preparation of a Tumor of the Brain, connected with the Tentorium, which had been forwarded to the society by Dr. Hughes Bennett, with the following description and history of the case:—

A lady, between seventy and eighty years of age, two years ago, was seized with loss of consciousness and hemiplegia of the left side, with contraction and rigidity of the arm of the same side. She recovered slowly, the intellect remaining weak, and latterly being very defective. The head, when she died, was the only part examined. The right corpus striatum, and part of the optic thalamus, were converted into a yellow ochry substance, of a pulpy consistence, presenting, under the microscope, the usual appearances of inflammatory softening. There was also found at the same side, attached to the under surface of the tentorium cerebelli,

but causing no corresponding depression on the surface of the cerebellum, a tumor, the size of a walnut, of a soft fibrous structure and consistence. Being examined microscopically, the structure was found to consist of round or slightly oval bodies, varying in size from the 1-100 to the 1-20 of a millimetre in diameter, apparently solid, transparent, with dark, abrupt edges, shadowed gradually towards the centre, (transmitted light.) Each was enclosed in a sheath of cellular tissue, varying in thickness from the 1-120 to 1-80 of a millimeter in diameter. Pressure caused them to crack, generally in a radiated manner, from the centre to the circumference.* Excess of ether caused no change in them, neither did acetic acid; although this last reagent rendered the cellular sheath more transparent, and the nuclei proper to this tissue more distinct. These bodies were embedded in what at first appeared a simple granular matter; dilution with water, however, showed this to consist of an immense number of fibro-plastic cells, (Lebert,) and fusiform cells, in various stages of development. Here and there, capillary vessels, ramifying in the mass, could be distinguished.

Mr. FORSTER exhibited a specimen of
A Heart with only Two Cavities.

A young woman, aged 20, was delivered of a male child, to all appearances well developed. It refused the breast, and its surface became cold and livid; had several attacks of dyspnoea, a paroxysm of which, lasting some time, terminated its existence 78 hours after birth. Father is said to labour under heart disease; mother healthy. Upon inspecting the body, the abdominal viscera appeared perfectly healthy; vessels of the head turgid; heart gorged, especially what was supposed to be the right auricle; lungs imperfectly inflated. Upon examining the heart more carefully, it was found to consist of but one auricle and one ventricle. Auricle of large size, and has five vessels opening into it, viz. superior and inferior cava, two pulmonary veins, and the coronary vein. Inferior cava provided with a large Eustachian valve; each pulmonary vein is formed by the junction of two branches. Auriculo-ventricular opening of large size, provided with a valve, curtains of which are small, thickened, and corrugated, and attached by numerous chordæ tendinæ to four powerful carnæ columnæ. Ventricle well developed, and dilated into a point at the upper and anterior part, from which arises the aorta, guarded by three semi-lunar valves. From the posterior part of the

aorta, two pulmonary arteries are given off. Coronary arteries are not given off at the aortic sinuses; but a single vessel, which appears to have been given off from the concavity of the arch of the aorta, above the two pulmonary arteries, passes down in contact with the left side of the aorta, and divides at its root into two branches, which are distributed upon the anterior and posterior aspect of the heart. This heart would seem to be an arrest of development at the fourth week, at which time it is analogous to the heart of a fish, the pouch of the ventricle corresponding to the bulbus arteriosus of that creature.

Mr. CRISP exhibited two specimens of
Malformation of the Heart, with Absence of the Pulmonary Artery.

The first specimen of malformed heart was taken from a female twelve years of age, who was found dying (apparently from bronchitis) when her medical attendant was called to her. The following history I obtained from the father after I examined the body:—"When born, the accoucheur thought that she could not live, but she had then no bluness of skin; she had been dumb from her birth, and was always very delicate; had been examined by several medical men, who said that her heart was diseased; she had frequent palpitation and dyspnoea on bodily exertion, especially on ascending the stairs, and the action of the heart was sometimes discernible beneath the dress; she was also subject to cough and pain of the side; the hands, feet, lips, and face, were often blue; the last generally so. The ends of the fingers were bulbous: she had, before her death, frequent cough, and expectoration of sero-purulent matter; but, as she had often been indisposed, her friends were not alarmed, and consequently did not obtain earlier assistance." The body small. Chest: heart rather large, and both ventricles slightly hypertrophied, and of equal thickness; the right cavity dilated; there is an opening in the upper part of the septum of the ventricles which would readily admit the little finger; the mitral, tricuspid, and semilunar valves healthy in structure; but the last are thicker and more lax than usual. Two small vessels, which will admit a common-sized probe, are seen running along the anterior part of the aorta; they are about an inch in length, and terminate in two or three smaller branches. On injecting these with air and water, the trunks are found to end in blind extremities in the parietes of the ventricle, at the root of the aorta, so that the blood must have regurgitated into them from a larger branch; the pulmonary artery is absent; four pulmonary veins enter the left auricle, and the two cavae the right. The foramen ovale is closed, and both the

* A similar structure is delineated in Wagner's *Handwörterbuch der Physiologie*, Part vi., and is described as being found in the pineal gland, and choroid plexus.—R.F.R.

auriculo-ventricular valves are normal. The innominate is large, and given off from the anterior part of the aorta an inch and a half from the commencement of the latter vessel. The aorta was divided close to the left subclavian, and its lower part not examined. The lungs were of their natural size; their substance normal; but the bronchial membrane highly injected, and covered with sero-purulent fluid.

The next specimen was taken from a child ten weeks old, affected with blue disease. The child increased in weight, appeared lively, and had no difficulty of breathing. Eight or ten days before death it had several convulsive fits, and appeared to die from this cause. The heart only was removed from the body. It is of a rounded form, having a flattened fig-like appearance. It consists of one large ventricle, from which the aorta arises at the anterior and upper part. This vessel was divided near to its origin. On cutting into the aorta, the semilunar valves are seen in a normal state; and below these is an irregular opening, formed by tubercular projections from the sides of the ventricle; the parietes of this cavity are rather thicker than natural. Behind the aorta there are the remains of a vessel which terminates in a cul-de-sac on the surface of the ventricle; and above this the extremity of a larger artery, which has been divided. There is a large auricle into which four veins enter: one below, and on the right, large, and corresponding with the inferior cava; another above, and smaller than the last, in the situation of the superior cava; the other openings are small, and posterior to the aorta. These venous openings and the aortic orifice were the only means of communication between the heart and other parts of the circulatory apparatus. The auricle* (which is small) has not been cut into, but the auriculo-ventricular valve appears to be perfect.

Dr. BARLOW exhibited a specimen of

Bright's Kidney,

taken from a patient who came under the care of Dr. Addison, in Guy's Hospital, in February. He had, on admission, swollen legs and abdomen, puffy face, and dropsical

conjunctiva, accompanied with much bronchial obstruction; the heart apparently healthy; the urine of specific gravity 1012, densely coagulable, about two and a half pints being passed in the twenty-four hours. For the space of a month the case took the ordinary course of Bright's disease, the amount and character of the urine being much as on admission. At the end of this period a severe attack of rigors supervened, together with much febrile excitement and great dyspnoea; and the amount of urine diminished to one pint in the twenty-four hours, and contained the lithates in abundance, being densely coagulable. He somewhat rallied from the attack under treatment; but a second attack of rigors coming on nine days afterwards, with aggravation of all the symptoms, he died asphyxiated. Old pleuritic adhesions were observed on both sides of the chest. Lungs emphysematous, the bronchi and their divisions being much dilated; slight atheromatous deposit in the arch of the aorta; the kidneys enormously large and white; the capsule stripped off with undue ease, leaving the surface of the kidney smooth, and stellated with closely aggregated white spots,—which seemed to consist of interstitial deposits,—in parts, while in others there were large contracted spots of a deep purple colour, congested; the general appearance was very beautiful, and not unlike, in the recent specimen, to a piece of variegated marble; the pelvis of the organ was considerably dilated; the mouth of the renal artery was patulous, and unyielding to the touch. On examining the renal vein, it afforded no slight surprise to find it filled with a firm fibrous coagulum; and on tracing it in its divisions, this strange and unusual condition was found to exist to its ultimate ramifications. Under the microscope, the white interstitial deposits were found to consist principally of fat, while evidence was afforded of the inflammatory origin of the coagula in the veins. In the abdomen about a pint of muddy serum was found effused. In consequence of the curious condition of the renal veins, the venous system generally was examined with considerable care, but no abnormality was discovered.

UNIVERSITY COLLEGE.

THE valuable law library of the late Mr. William Blackburn, of Lincoln's Inn, has been presented to this college by his sister, Miss Eleonora Blackburn, of Bloomsbury Square. The council of the college have lately appointed Dr. Parkes and Dr. Garrod, assistant physicians, and Mr. J. P. Potter, assistant surgeon, to the hospital.

* Since the heart was exhibited to the Society, the auricle (which was supposed to be single, in consequence of the probe passing from one of the left venous openings to the right) has been carefully examined, and a thin imperfect septum is seen, forming two cavities; the right the larger, and its communication with the ventricle guarded by three small curtains; the left cavity small, with two venous openings, having also an auriculo-ventricular valve with two curtains. There is a small appendix to this auricle. The opening in the auricular septum (foramen ovale) will admit a common-sized goose-quill, but it is so guarded by a valvular flap that very little blood could have passed through it.—E. C.

Medical Trials and Inquests.**CENTRAL CRIMINAL COURT.**

Wednesday, April 7th.

(Before Mr. Justice COLERIDGE.)

DENNIS CRONIN was charged with the manslaughter of Sarah Ellen Collyer. The indictment alleged, that before the commission of the felony the deceased was sick and distempered in her body, and that the defendant undertook to treat her in a medical capacity for such illness, and in the course of that treatment administered to her a certain noxious, dangerous, and destructive compound, composed of spirit of ammonia, prussic acid, and bitter almond water, and thereby caused her death.

Mr. Payne prosecuted; and Mr. Clarkson conducted the defence.

Mr. CLARKSON having stated that he should not attempt to dispute the facts connected with the death, they were given very briefly, and it will only be necessary to state that it appeared that the deceased was suffering from some malady at the commencement of last February, and applied to the defendant, who furnished her with some medicine, which was sent from his own dispensary, and after she had taken it she appeared better. The defendant afterwards gave her a prescription, telling her that she could get the medicine made up *at any chemist's*; and it appeared that on the 15th of February a person named Johnson was sent with the prescription to the shop of a chemist named Corfield, in Camden Town, and he received from him a bottle of medicine, which he brought back to the deceased, and upon her taking a table-spoonful (and a half) of the mixture she immediately complained of illness, and died in the space of a very few minutes, the death being clearly occasioned by prussic acid contained in the compound thus furnished.

Mr. Daniel Corfield was examined.—He deposed that he was a chemist, and resided in High Street, Camden Town. He remembered Mr. Johnson coming to his shop on the evening of the 15th of February with a prescription for a mixture, which was to be composed of two drachms of compound spirit of ammonia, 16 drops of tincture of opium, four drops of prussic acid (Scheele's strength), two grains of compound strychnine powder, and six ounces of bitter almond water. The prescription was dated the 3d of February. Having no compound strychnine powder, or bitter almond water, he sent his boy to fetch some, and he brought back a 12-ounce bottle of bitter almond water; and having placed the other

ingredients in a bottle, with the exception of the strychnine powder, he filled it up with six ounces of the bitter almond water, and gave the mixture to Mr. Johnson. In addition to this evidence, he stated that having been in business as a chemist for 12 years he never before heard of strychnine powder or bitter almond water being used as the ingredients of medicine. Cross-examined.—*He was entirely ignorant of the qualities of bitter almond water and strychnine powder, and they were not named in any recognised Pharmacopœia. The last edition of the Pharmacopœia was published 11 years ago; and since that period there had no doubt been a great advance in medical science, and many new discoveries in medicine had been made. Mr. CLARKSON.—Do you know anything of the character of strychnine powder, or whether it would be calculated in any way to neutralise the effects of the other ingredients of the mixture? Witness.—I don't know any thing of the quality or effect of this powder. Mr. CLARKSON.—And yet you did not communicate the fact of its having been omitted to the party to whom you gave the medicine? Witness.—I did not. Mr. CLARKSON.—In justice to Dr. Cronin will you tell us whether you sent the prescription to Mr. Bell, from whom you obtained the bitter almond water? Witness.—I did not. Mr. CLARKSON.—Then he had no means whatever of knowing how it was to be used—whether internally or externally? Cross-examination. — The bitter almond water appeared to be intended only as a medium for mixing the other ingredients and making up the quantity. The different articles mentioned in the prescription he should say were calculated to neutralise each other; *the spirit of ammonia, for instance, would decompose the prussic acid.* He was not aware that there were a great many different descriptions of bitter almond water, and that some were deadly poisons while others were perfectly harmless. It was evidently the intention of the prescription that the simple bitter almond water should be used, and not the concentrated essence of the bitter almond, and then only as a vehicle for mixing the other ingredients. Mr. CLARKSON.—And you filled up the bottle with six ounces of deadly poison? Witness.—I filled it up with the bitter almond water that I received from Mr. Bell. Mr. CLARKSON.—Without meaning anything offensive, will you allow me to ask you *whether persons who follow the profession of a chemist undergo any medical examination before they do so?* Witness.—They do not.*

Mr. Justice COLERIDGE here interposed, and observed, that to say the least of it the act of pretending to make up a prescription

sent by a physician, *without putting in all the ingredients mentioned in it, was most monstrous.* Although not a fraud in the ordinary sense of the term, still it was one on the person to whom the medicine was intended. Such a proceeding was very dangerous in any case, and he was not prepared to say *what the effect had been in the present instance.*

Mr. Morson, a chemist in Southampton Row, to whom the first application was made by Mr. Corfield's messenger for the powder and the bitter almond water, but who not having them, referred him to Mr. Bell, of Oxford Street, was next examined, but he merely proved that having been in business, as a chemist, for a great many years, he had never heard of bitter almond water being used in compounding medicine.

Mr. Jacob Bell deposed that he received an order from Mr. Corfield for the bitter almond water and the strychnine powder. He had none of the powder, and therefore he only sent the bitter almond water, and a formula of the powder that he found in a book to which he referred. There were 22 different descriptions of bitter almond water, and, looking at the prescription, he should not know which description was required; and, if such a prescription had been sent to him, he should not have made it up without communicating with the physician. Different distilled waters were made use of to mix medicine in, some being poisonous and others harmless; but in the former case he should expect the prescription would denote the strength that was to be used. Chemically speaking, he was of opinion that the omission of the strychnine powder would not at all affect the quality of the mixture in question, excepting that the omission of a *poisonous ingredient would have rendered it less poisonous.* This powder was a preparation from *nux vomica*, but the quantity mentioned in the prescription would in itself have been perfectly harmless. *Cross-examined.*—If he had seen the prescription, he should have known that the bitter almond water was merely intended as a vehicle for the administration of the medicine, and he would have made use of a harmless description of bitter almond water. In that case no mischief would have happened. He had no means of knowing whether it was to be used internally or externally, or, in fact, to what purpose it was to be applied. If he had known the bitter almond water he sent was to have been used internally, he should not have put the word "poison" upon the bottle, because he should think a chemist would be aware of the fact; but if he had known that he was dealing with a person who admitted, although in that profession, *that he was entirely ignorant of the qualities*

of the article, then he should certainly have put the word "poison" on the bottle. The article he sent was a concentrated bitter almond water, but there was some of a more powerful description.

Mr. Justice COLERIDGE inquired of the witness, whether, when the chemists sent out the concentrated almond water, it was not customary to label it as such? The witness said it was not customary to do so. In answer to further questions put by Mr. CLARKSON, the witness said, that, although he did not consider the quantity was sufficient to kill a horse, there was quite enough to destroy a human being. He likewise said that there was no doubt the physicians of the present day were infinitely in advance of the existing *Pharmacopæia*. *Re-examined.*—In his opinion *the prescription should have defined the strength of the bitter almond water that was to be made use of.*

Mr. J. E. Spratt, chemist, deposed that he kept five descriptions of bitter almond water: two English and three foreign. He was in the habit of making up physicians' prescriptions, and *constantly used bitter almond water.* If the word "concentrated" was not mentioned in the prescription he should use the strength stated in *Gray's Pharmacopæia*, which would be quite harmless.

Mr. Justice COLERIDGE.—Then, in your opinion, the omission of the word "concentrated" was an indication that the weak description of bitter almond water was intended to be used in the prescription? Witness.—Certainly. If this prescription had been sent to me, I should have used the weak compound. Mr. Justice COLERIDGE.—And, if you had done that, would the mixture have been harmless? Witness.—I conceive so. The learned JUDGE here inquired of Mr. Payne whether he thought the case ought to be carried any further.

Mr. PAYNE said he certainly thought, after the evidence that had just been given, that the matter was too doubtful to justify a conviction.

His LORDSHIP observed it appeared perfectly clear that a chemist possessing the ordinary knowledge of his profession must have known that a weak description of bitter almond water was intended to be used for the prescription. Mr. Corfield did not appear to have known anything upon the subject, and he did not give the prescription a fair chance.

The jury then deliberated together for two or three minutes, when

Mr. CLARKSON observed, that perhaps it would be more satisfactory to all parties that another medical witness should be examined.

Robert Venables, a member of the College

of Physicians, and lecturer on forensic medicine, was accordingly called, and, after having stated that upon analysis he discovered sufficient prussic acid in the liquid of which the deceased had partaken to account for her death, said that, looking at the prescription, he should have expected that the ordinary weak compound of bitter almonds would have been used, and that was perfectly harmless. He also said that if the strychnine powder had been added, although it would not have had any chemical effect, it would have acted *physiologically* upon the system, and would have had a similar effect to ammonia in neutralizing the prussic acid.

The jury here interposed, stating that they were quite satisfied with the evidence that had been adduced, and they at once returned a verdict of—*Not Guilty*.

Mr. CLARKSON observed, that, if the case had gone further, he had twenty chemists present to prove that bitter almond water was *constantly* an ingredient in the prescriptions they made up for physicians. Mr. Justice COLERIDGE ordered the defendant to be immediately discharged.

INTRA-UTERINE DROPSY.

At a late meeting of the Bath and Bristol Branch of the Provincial Medical and Surgical Association, Mr. King narrated a case of dropsy occurring in a fetus of eight months. The mother had borne six children, but did not menstruate between her first and her fifth pregnancies; was "on-well" once when she became pregnant with this child. Between the fifth and sixth months she became anasarctous, and, at the time of parturition, her abdomen and lower extremities were very large, tense, and hard. Some few days after labour her urine was albuminous. The labour was natural, but the child did not advance, though the pelvis was large, and the head of the child could be freely moved therein. The uterus was excited to action by two doses of ergot, and the child, with some difficulty, caused by the size of its body, brought down. At birth it measured round the waist sixteen inches and a half.—*Provincial Medical and Surgical Journal*.

REMARKS.—We have cited this case on account of its interest in an obstetric point of view; otherwise the absence of any notice of a cadaveric inspection renders it very unsatisfactory. An examination of the thoracic and abdominal viscera, and especially of the heart and kidneys, might have given rise to some important pathological results.

Correspondence.

CASES ILLUSTRATIVE OF THE VALUE OF ETHER INHALATION IN PRACTICAL SURGERY.

Tumor of the Eyelid.

MR. H., æt. 36, consulted me on Monday 22d inst., for a tumor situated on the right lower eyelid. It had increased rapidly in size during the last few weeks. It was firm and incompressible to the touch, free from subcutaneous adhesions on its anterior wall, but firmly adhered to the conjunctiva and tarsal cartilage posteriorly; that membrane was much inflamed and highly vascular, especially where it adhered to the tumor. This body was the size of a kidney bean, and was the cause of much irritation and inconvenience to Mr. H. On suggesting its removal, he informed me that he was of a highly nervous temperament, and would consent to its removal provided he was put under the influence of ether, otherwise he could not submit to the operation. On the following day, Dr. Smith kindly assisted me, and administered the ether by the simple and effectual method invented by that gentleman, which consists in soaking a sponge, of the best Turkey species, and of about four inches in diameter in water, of the temperature of 90°. Squeeze the hot water well out, and saturate it with a solution of ethereal oil, in sulphuric ether, ʒii of the former, and ʒvi of the latter, re-distilled for this purpose. The sponge thus charged with ether is gradually approached to the mouth and nostrils, and afterwards retained in close apposition until the full effect is produced. Expiration easily takes place through the porous canals of the sponge. By this process our patient was rendered insensible to pain in three minutes. The integument was transfixed and divided without the slightest excito-motory action. The fibres of the orbicularis palpebrarum were separated, and some of them divided, but the muscle did not contract. The tumor was drawn downwards and outwards with a tenaculum, and the difficulty now commenced. The adhesion was more firm and extensive than I anticipated, and a slow and careful dissection of the posterior wall of the tumor from the vascular conjunctiva was necessary; the mobility of the latter increasing the difficulty, as the tumor lay closely embedded at the internal angle of the eye, adhering to the tarsal cartilage, the lachrymal sac, and ducts. The angular vein and arteries had to be carefully avoided. From the delicacy of the dissection necessary, and the laxity of the parts concerned, I am convinced that the removal of this body would have been attended with great difficulty but for the motionless condition

f the patient, which was maintained for fifteen minutes. Mr. H. never once manifested the slightest excito-motory act, felt no pain, but was conscious of what was going on around him. This case proves, first, that the excito-motory nervous system is that which is primarily affected by the vapour of ether through its influence on the pneumo-gastric nerves, the functions of the brain being performed, as proved by the patient's consciousness, whilst cutaneous sensibility was for a time suspended.

Femoral Hernia.

Mrs. S., *æt.* 72 years, of a highly sensitive nervous temperament, which has been developed from the station of life in which she moved. Her general health has been much enfeebled from dropsical symptoms, supposed to depend on renal disease. She has been suffering from an attack of bronchitis, attended with spasmodic cough, and much irritation of the bronchial mucous membrane, for which she consulted Dr. Smith. Early on the morning of the 23d inst. that gentleman was summoned to see his patient. She had for some years past had a fulness in the right groin, of the nature of which Mrs. S. and family were ignorant, and never having been inconvenienced by its presence, no opinion was asked about it. On the morning of the 23d, after a violent paroxysm of coughing, she found the usual swelling suddenly increased to three times its former size. Dr. Smith had succeeded in reducing a portion of the hernia, but as the obstruction continued, that gentleman requested my opinion of the case. We met in consultation in the evening, and I employed the taxis with caution for about an hour, and with some success. During the manipulation, Dr. Smith held a sponge to the nostrils, with a view to relax the vital tension of the tissues. It was certainly useful in aiding the partial return of the intestine.

We left her composed and free from pain, and directed bladders of ice to be kept on the part all night. The cough returned, and the tumor was again protruded. It was now tender to the touch, with a painful sense of constriction referred to the crural ring. She had vomited several times some dark bilious matter, and neither food nor medicine would remain on her stomach, and hiccup had commenced. When we met at one o'clock, finding it impossible to return the intestine, we decided on the operation, as soon as the necessary preparations could be made. She was placed in a sitting posture in bed, with the legs depending over the side. Every thing having been arranged, Dr. Smith put the patient under the influence of ether, which occupied about ten minutes. It is important to note, that instead of exciting the inflamed membrane of

the respiratory passages, the vapour of ether had, on the contrary, a sedative effect. When fully under its influence, I commenced the operation for femoral hernia. The patient was not restrained in any way. I raised a fold of the integument four inches in breadth, transfixed it with the bistoury, and cut rapidly outwards.

This produced an incision in the line of Poupart's ligament. A second incision, made in the same manner, met the former at acute angles, and produced a T-shaped wound.

The superficial fascia was carefully dissected backwards, and the hernial tumor exposed: it was now evident that there was a double femoral hernia,—an old rupture, and one of recent origin. The sac of the former was firmly united to the inguinal glands and superficial fascia, and contained omentum and fluid, which could be reduced. The sac of the recent hernia contained a knuckle of intestine in a state of strangulation. The recent sac was thrust into the outer cellular covering of the old one, and closely packed in it: these layers of fascia were cautiously divided, and the recent sac freed from its connection with the ancient hernia. I attempted in vain to return the intestine without opening the sac: I therefore laid it open, and divided the constriction at its neck; still the intestine could not be returned. The index finger of the left hand was carried up to the crural ring, and two dense bands were felt stretched across the arch: these were separately divided. The canal being found free beyond, the intestine was returned without further difficulty. The vermicular motion of the intestine was now observed. During the entire operation the patient remained almost motionless: the only assistance required was given by Dr. Smith. If evidence were required to prove the great value of ether inhalation in suspending excito-motory action and cutaneous sensibility, the facts recorded in this case would supply such; that I was enabled to make this painful, tedious, and delicate dissection in a highly nervous patient, without restraint, and almost without assistance. The wound was united by the interrupted suture, the sponge was removed, and the patient now, for the first time, experienced pain from the punctures of the needle. We did not consider it necessary to renew the effect, as she had been about thirty-five minutes under the influence of the ether. There was no collapse, nor disposition to syncope; she expressed herself most grateful for the total absence of pain during the operation, and said she only felt the prick of the needle when the sponge was removed.

Half-past six, P.M.—Has been very calm and free from pain, and has had some sleep since the operation; feels as if the bowels

would now act : asked for a cup of cocoa, which was allowed.

Half-past ten, P.M.—Bowels have been comfortably moved : feels much better, and has not coughed much since the inhalation of the ether.

Thursday, 12 P.M.—Dr. Smith saw her early this morning, and ordered a dose of castor oil, which has acted three times freely. She passed a comfortable night, slept soundly ; complains of a sense of stiffness in the inguinal region, but no pain ; abdomen distended with flatus, but not tender on pressure.—To take some chicken broth and *tous-les-mois*.

Friday, 12 P.M.—Is much better this morning. Bowels were moved in the night ; feels quite easy ; the wound has united by the first intention, and her state is most satisfactory.

Sunday, 28th.—Much better to-day. Has no tenderness in the wound, and is cheerful and free from pain. Dr. Smith ordered her some chicken for dinner.

REMARKS.—This case illustrates the value of ether under a combination of circumstances apparently the most unfavourable for its success :—

1st, The age of the lady. Her extreme sensibility to pain, and previous debility, rendered the operation for hernia one of extreme danger under any circumstances. The ethereal vapour prevented that shock to the nervous system which, without this valuable agent, would in all probability have proved fatal to our patient.

2d, The presence of bronchitis with spasmodic cough might appear to those unacquainted with the power of ether vapour as a general sedative, to have excluded it from the class of cases in which its inhalation was admissible. The result, however, shews the fallacy of *à priori* reasoning in a science of observation and experiment like practical medicine.

3d, The tedious nature of the operation, and the length of time which the sentient and excito-motory systems were under the influence of this agent without producing any unpleasant effect when the sponge was removed, leads to the conclusion that the brain is not always in that state of congestion which some have supposed ; that the primary influence of the vapour of ether is upon the expansion of the pneumo-gastric nerves in the lungs, and by them conveyed to the medulla spinalis. In some of the cases observed by Dr. Smith and myself the cerebral functions were more or less active. Some patients, as Mr. H., state that they were perfectly conscious.

The nerves of the higher senses, the optic and auditory, were affected by light and sound at the time that common sensation and voluntary motion were suspended. The

ganglionic system of nerves is not influenced by the ethereal vapour, as proved by the regular action of the heart after the first shock has passed off, and by the vermicular contraction of the muscular coat of the intestine as it lay before me during the dissection, the fibres of which were aroused to increased contraction every time the director or back of the bistoury touched the peritoneal covering.

I cannot conclude the history of this instructive case without bearing my humble testimony to the great value of Dr. Smith's method of administering the vapour of ether with the sponge. The simplicity and entire efficacy of this mode is superior to the complicated machinery others have proposed : both the patient and the ether are so completely under the command of the operator. The porous canals of the sponge permit the free ingress of atmospheric air and the escape of the carbonic acid generated in the respiratory process, so that the danger of asphyxia from that cause is entirely removed.—I am, sir,

Your obedient servant,

THOMAS WRIGHT.

Exeter Place, Cheltenham, March 1847.

OVARIAN DISEASE.

Mr. NORMAN narrated the following singular case of ovarian disease at a recent meeting of the Bath and Bristol Branch of the Provincial Medical and Surgical Association. He was called to examine a lady with all the symptoms of ovarian dropsy ; the abdomen was large and tense, and fluctuation was most distinct ; the swelling had begun on the right side, had lasted several months, and had much impeded respiration. It was decided in consultation that tapping would afford considerable relief ; the trocar was passed, but no fluid came ; and, after clearing the canula, under the idea of some obstruction to the passage of the fluid, it was withdrawn without any fluid following it, or any aggravation of the symptoms. She became weaker, and, after four or five weeks, died. On *post-mortem* examination the trocar was again passed, without giving issue to any fluid. On opening the abdomen, the cavity of the peritoneum was found full of a gelatinous substance like glue, which could be drawn out in long strings, and would not drop ; this tenacious fluid could with difficulty be removed, though a bucket-full was taken out. There was then found a cyst of the right ovary, not capable of holding a quarter of the fluid taken out ; the cyst appeared to have burst, then lessened in size, while the secretion still went on from its lining membrane into the cavity of the abdomen, causing the *serosa* of inflammation.—*Provincial Medical and Surgical Journal*.

Selections from Journals.

SINGULAR INSTANCE OF ONE DOG KILLING AND EATING ANOTHER—DEATH FROM RUPTURE OF THE STOMACH.

BY MR. WARNE RADDALL, M.R.C.V.S.

[We take the following extraordinary case from the last number of the *Veterinary Record* :—]

In the month of May, 18—, I was sent for by C. Tolcher, Esq., who then resided about one mile from Plymouth, Devon, requesting my immediate attendance at his house, to make a post-mortem examination of a pointer dog of his, that had that morning died under, as he thought, somewhat suspicious circumstances. On my arrival, he informed me that two favourite spaniels and a pointer had had, during the preceding night, a desperate quarrel with each other, although they had been kept kennelled together for a considerable time. On going to the kennel, I found the spaniels perfectly quiet and at peace, although presenting sad appearances of punishment, particularly about the head, eyes, &c. On looking at the dead pointer, I was at once struck with the immensely distended state of the abdomen: the body seemed as if death had taken place some days since, and decomposition was going on. Expressing my surprise, Mr. T. stated that a little pet spaniel of his daughter's, of King Charles's breed, had that morning only disappeared under very peculiar circumstances. It slept in the dwelling-house at night, and in the morning, when the groom opened the hall-door, he saw the little animal run out before him, and go in the direction of the stable-yard. On the groom arriving at the stable-yard, the dogs were making a horrible barking noise, and he called out to them in order to quiet them; having accomplished which, he proceeded to the stable to do his usual work. He had not long been at his work, before his attention was again directed to the noise made by one of the dogs; he therefore now opened the kennel door, and was surprised to find all three of the dogs presenting appearances of having been fighting, and the pointer lying on the floor, moaning as if in great pain, and shortly after he died. The groom lost no time in apprising his master of what had occurred, who, fearing hydrophobia (that disease being at the time very prevalent in the neighbourhood), immediately sent for me, in order to decide, by a post-mortem examination, if such was the cause of death in this case or not. If it were so, there was but one course to pursue with the other two dogs. While I was making preparations for the examination of the

body, Mr. T. told me the groom had stated to him, that he really believed the pointer dog had killed and eaten the little King Charles's spaniel which had so suddenly disappeared, which statement I confess I thought little of, stating that there was a common adage, that "dog did not eat dog;" also remarking that, if it had been so, we should certainly have seen traces of blood, &c. on the floor. I now proceeded with my examination, and first observed a deep lacerated wound on the left side of the face, inflicted doubtlessly by one of the spaniels. The large branch of the fifth pair of nerves supplying the lip had by the laceration been torn very considerably. Proceeding with my dissection, I found nothing in the fauces, or upper portions of the air-passages, that indicated canine madness; but on laying open the cavity of the abdomen, I perceived the stomach to be ruptured to two-thirds of the extent of the greater curvature, which was, of course, the obvious cause of death. The whole of the other viscera, both abdominal and thoracic, were perfectly normal. On examining the contents of the stomach, to my utter astonishment and disgust, I there found the entire remains of the little spaniel, and, as I believe, every particle of him: the bones, even of the cranium, were ground down to pieces, and swallowed. And even now, after having had ocular demonstration of the one dog having killed and eaten the other, on minutely examining the floor of the kennel, which was kept remarkably clean and in excellent condition, we could not discover a stain of blood, or a particle of skin, bone, intestine, or any other relic of the little favourite.

I at once gave it as my opinion that there was no cause to apprehend or fear the existence of hydrophobia in the spaniels; and that the cause of death in the pointer was the sudden distension of the stomach, which led to its mechanical rupture by such an unnatural act as that of killing and eating one of his own species, and that this arose from the state of phrensy or delirium under which he laboured, which was produced by the laceration of the large facial nerve. The brain, as well as its meninges, was perfectly normal. A sufficient time, I apprehend, had not elapsed after the infliction of the injury, prior to death taking place, for any structural derangement to present itself in this organ, although it was impaired functionally.

IS THERE ANY EVIDENCE THAT CANCER IS SPONTANEOUSLY CURABLE?

(Communicated by the Author.)

Of the ultimate causes of cancer, or why an exudation thrown out from the vessels

should ever undergo the peculiar transformations described, we know nothing. Observation and experience, however, coincide with the modern theory of cell growth, in attributing to it a reproductive power, in which its malignancy and power of spreading from tissue to tissue depends. Is this process ever checked? A general opinion prevails that cancer is necessarily fatal. Dr. Bennett did not coincide in this opinion, because it was not easy to understand why nature should never cause the degeneration and disappearance of this one particular growth alone, whilst every other tissue and form of cell-life was occasionally abortive. Trousseau, Hodgkin, Cruveilhier, and others, have frequently traced the conversion of scirrhus into ossiform matter, in the lower animals and in man. Dr. Walshe on this subject, observes, "I feel myself justified in affirming, after careful investigation of the point, that if the bony lamellæ actually continuous with some part of the skeleton, and which formed a marked characteristic of certain cancers connected with osseous structure be excluded from consideration, the phœnomenon in question will be found to be much more written of than observed." (Treatise, p. 81.) Dr. Bennett stated that he had seen this transformation into calcareous matter in five cases, and presented four preparations to the Society taken from three of these. The first preparation was a portion of a large soft cancer, lobulated externally, taken from a case of Dr. Paterson's preserved in spirit. A microscopic examination showed it to contain numerous cancer cells, deposited in areolar tissue, combined with an immense number of crystalline masses of phosphate of lime. The second preparation was a dried section of this tumor, the volume of which was only slightly diminished, and seemed to be only formed of calcareous matter. The third preparation was a dried portion of intestine, with a mesenteric gland attached, the external portion of which was converted into calcareous matter where fresh cancerous matter could still be squeezed from its centre, exhibiting the characteristic cell structure, mixed with a quantity of earthy matter. The fourth preparation was a dried portion of mesentery, studded over with enlarged mesenteric glands, completely calcareous, removed from the body of a female who had died from scirrhus and chronic stricture of the pylorus. This series of preparations, Dr. Bennett considered, offered conclusive evidence that cancer is capable of undergoing the calcareous transformation.

It has been stated that cancer sometimes becomes transformed into fibrous or fatty tissue, and thus produces cicatrices in organs. It is very difficult to prove such a statement, because if there be no cancerous

cells in a fibrous tissue, it is contended that it is not malignant, and never has been. On the other hand, if cancer cells be present, it is clear that we have no evidence of degeneration. There can be no doubt that many organs and tumours are considered cancerous which are only fibrous. Dr. Bennett had examined many so called cases of scirrhus of the pylorus, which were only hypertrophy of the muscular and fibrous tissue of the part. He alluded to a case of Dr. Alison's he had examined, in which the coats of the stomach throughout varied in thickness from an inch to an inch and a half. The viscus was thought by all who saw it to be cancerous, and yet he showed it to consist of nothing but fibrous tissue and fusiform cells. He had also proved many tumours, supposed to be cancerous, to be only fibrous.

Professor Bochdalek of Prague, formerly pathologist to the hospital there, and now Professor of Anatomy in the University, published a memoir, in 1845, "On the Healing Process of Cancer in the Liver." He describes the cancer in this organ as breaking down into a cream-like matter, the fluid parts being absorbed, and the whole shrinking together, forming a puckering on the surface often corresponding to a fibrous mass or a fatty material, in which collapsed cancer cells may yet be detected. In some livers he has seen these cicatrices in all stages of formation, cancer in some places, and perfect cicatrices in others. In Prague, he tells us, there are between 400 and 500 bodies examined annually. Among these cancer of the liver occurs about 16 or 17 times, and among these proofs of healing may be observed between 6 and 7.—(*Oesterreichische Wochenschrift*, 26th April, 1845.)

Dr. Bennett had frequently seen these appearances in the liver, but he had never been able to satisfy himself that they were proofs of cured cancer. There are strong probabilities in its favour however. Tubercular masses are rare in the liver of adults, and such lesions must depend either upon cancer or upon chronic abscesses. He exhibited to the Society two wet preparations of livers, with puckering on their surfaces, some corresponding to white fibrous cicatrices, and others to rounded yellow masses, varying in size from a pea to that of a walnut. When recent, these latter were thought to be cancerous by all who saw them, yet a minute examination showed them to be formed principally of fibrous tissue, mixed with irregular fatty particles, and debris of cells, so indeterminate in their character, that their nature could not be ascertained. In some of the cases of Prof. Bochdalek, cancer was associated with these cicatrices, and that cancerous ulcers occa-

sionally cicatrize is well known to surgeons.

When in Prague last autumn, Dr. Bennett having been previously acquainted with Professor Bochdalek's memoir, carefully examined the preparations of the lesion described, in the pathological museum of that city. He recognised them to be the same in appearance as those he now presented to the Society. Professor Dlauy, the present pathologist, was so polite as to take the preparations out of their bottles, make fresh incisions into them, and permit Dr. Bennett to examine them microscopically. He found that the cicatrices, though altered by spirit, were principally composed of fibrous tissue; the nature of the softer matters could not be ascertained. This was no proof of cancer. He was then shown a similar preparation of a liver, together with a stomach taken from the same case, the former having similar puckering, and the latter a cancerous ulcer of which the individual died. Whether this was a mere coincidence it would be difficult to say. M. Sedillot has lately asserted that cancer cells are occasionally elongated, so as ultimately to form fibres, but it is not certain whether he has clearly distinguished the fibro-plastic elements so often present in cancerous tumours from those of cancer. Dr. Bennett considered, that taking every statement into consideration, it was by no means improbable that cancer might occasionally degenerate into a fibrous mass, although we still require positive proof of it. At all events they have convinced him of the necessity of making further researches on this subject.

The same difficulties exist with respect to the supposed degeneration of cancer into fat. Nothing is more common than to find associated with cancer a yellowish friable matter, more or less abundant, resembling cream in colour or consistence, or presenting a bright gamboge yellow tint. This, on examination, is found to consist of numerous granules, which disappear on the addition of ether, and refract light, like globules of oil. Whether these granules are elementary nuclei and cells, or whether they are the result of the disintegration of cells previously formed, is unknown.—*Dr. J. H. Bennett's Observations on Cancer.*

Medical Intelligence.

ROYAL COLLEGE OF CHEMISTRY.

IN reference to a paragraph which appeared in the last number of the *MEDICAL GAZETTE*, we have been requested to state that *no proposition* has yet been made for the

union of the Chemical Society with the Royal College of Chemistry. A suggestion was made some time since that the meetings of the Chemical Society should take place in the rooms of the College; but the proposition not being authorised, fell to the ground. Hence it appears that there has been no proposed union of the two Institutions.

SCHÖNBEIN'S GUN-COTTON.

FROM the specification of the patent which has been just enrolled it appears that the secret of the preparation of Schönbein's cotton is as follows:—The acids employed are the Nitric of 1.45 to 1.5 s. g. and the Sulphuric of 1.85, s. g. They are mixed together in the proportions of *one measure* of nitric to *three measures* of sulphuric acid. The mixture is left until its temperature falls to 60°: the cotton previously cleaned is then immersed in it in an open state—thoroughly saturated—the acids pressed out—the vessel covered over, and allowed to stand for about an hour. It is then washed in water until it ceases to have an acid reaction. Any uncombined portions of acid are removed by dipping it into a solution of one ounce of carbonate of potash in one gallon of water. If the cotton be subsequently dipped into a weak solution of nitre its power is increased. It is lastly pressed and dried at a temperature of 150°. In this state the cotton is highly explosive.

TESTIMONIAL TO DR. TAYLOR, OF UNIVERSITY COLLEGE.

The students of the faculty of Medicine in University College are about to present to Dr. Taylor, their late esteemed Professor of Clinical Medicine, an address and testimonial expressive of their high regard and estimation of his character and talents. The address—a specimen of elegant penmanship, executed by Mr. Robertson, of Coventry Street; and the testimonial—a handsome tea-service and salver, manufactured by Messrs. Rowland and Sons, silversmiths, Regent Street, will be exhibited to all friends interested in the matter, in the Council Room of the College, during the early part of the week. Dr. Taylor was the first student of the college elevated to one of its professorships, but held office only a short time, his health breaking down under its onerous duties.

SEA-MOSS SPLINT.

THE people of Chiloe, an island on the western coast of South America, use the sea-moss which surrounds the little island of Cochino (Pern) not only as an article of food, but also in surgery. When a leg or an arm is broken, after bringing the bone into its proper position, a broad layer of the

moss is bound round the fractured limb. In drying, the slime causes it to adhere to the skin, and thus it forms a fast bandage, which cannot be ruffled or shifted. After the lapse of a few weeks, when the bones have become firmly united, the bandage is loosened by being bathed with tepid water, and it is then easily removed. The Indians of Chiloe were thus acquainted long before the French surgeons, with the use of the paste bandage.—*Travels in Peru, by Dr. J. J. Von Tschudi*, p. 11-12. *From the German, by T. Ross.*

LIBERATION OF HEAT FROM PLANTS.

THE liberation of heat is sometimes very extraordinary, as in the *Aroides*; it has also been observed in the *Bignonia*, *Gourd*, &c. In *Arum*, at the time of the opening of the flowers in the spadix, a kind of "quotidian fever" is remarked. The heat each day rises up to a certain point and then decreases until it is a little above the temperature of the surrounding atmosphere; the maximum of heat increases daily for some days, and then gradually declines. In *Arum maculatum* the maximum has been found to be from 17° to 20° above the temperature of the surrounding air. In *A. dracunculus* and *Italicum* it is much higher.—*Henfrey's Structural Botany.*

ON THE RETIRING ALLOWANCE OF MEDICAL OFFICERS IN THE NAVY.

IN a recent debate in the House of Commons, Sir H. Douglas called the attention of the house to the cases of medical officers in the navy not included in the warrant of 1846, with a view of obtaining for them an improved retiring allowance: we quote the following just remarks from his speech:—"As to the medical officers, the surgeon did not purchase his commission, but a large sum was invested in his education, and, seeing his arduous duties, no one could say that he could serve for thirty years without having suffered in the discharge of those duties. The surgeon must have a perfect command of all his physical energies, he must be conversant with the most recent improvements in surgery and medicine, and his faculties were required to be so acute that no man beyond 60 or 62 could sufficiently retain them. The surgeon entered the service at the age of 24, and after thirty years' service would have nearly arrived at the period when those faculties failed: and yet no man with a large family could relinquish his full pay, together with his advantages of barrack allowances, mess, lights and fuel, equal to 10s. a week more, for 15s. a week. Hence the returns shewed that men remained as deputy inspectors-general of hospitals for thirty-nine and forty-two years, as staff-surgeons for forty and forty-

three years, and as surgeons to regiments for thirty-seven, thirty-nine, forty, and forty-three years." The ministerial answer was very unsatisfactory; it was in substance that the demands on the public finances, must be regarded as well as the claims of meritorious officers.

QUEEN'S COLLEGE, BIRMINGHAM.

THE first sessional examination of the students in the department of general literature and science, took place on Saturday the 10th, and Monday the 12th inst., when the following list was returned by the examiners:—

CLASSICS.

1st Class.—Fryer, Coleford; Wall, Stratford-on-Avon; Yarwood, Birmingham; Edney, Craig Kilmarnock.

2d Class.—Seven.

MATHEMATICS.

1st Class.—Wall; Fryer; Yarwood.

2d Class.—Edney; Rice, Stratford-on-Avon; Rose, Madeley.—Wilkinson, North-leach; A. T. Davies, Birmingham, seq.

3d Class.—Three.

CHEMISTRY.

1st Class.—Edney; Fryer; Wall.

2d Class.—Five.

EXAMINERS.

Lyttelton, M.A.; James T. Law, M.A.; W. M. Lawson, M.A.; George Richards, B.A.; John Taylor, B.A.; George Shaw E. W. Day, M.R.C.S.

NEW FELLOWS OF THE COLLEGE OF SURGEONS.

At a meeting of the President, Vice-Presidents, and Council of the Royal College of Surgeons on Wednesday last, Messrs. Francis Toulmin, of Clapton, Middlesex, and Frederick George Reed, of Hertford, having previously undergone the necessary examinations before the Court of Examiners, were admitted fellows of the college. The diploma of the former, as member, bore date August 7, 1827, that of the latter January 4, 1839.

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted Members on Friday, April 9th.—E. P. Wilkins.—E. Lund.—C. J. Gibb.—R. J. Brackley.—C. Mac-kechnie.—W. E. Hayman.—R. B. Sainter.—J. H. Prosser.—W. B. Gill.

Monday, April 12.—J. S. Ayerst.—G. N. Ediss.—W. P. Harrison.—T. Edis.—G. B. Barrow.—F. Robinson.—J. H. Richardson.—C. Pemberton.—F. Acret.—E. C. Cottingham.—R. J. Hansard.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination and received certificates to practice on Thursday, 8th April, 1847:—

Frederick Mason, Walcot Parade, Bath.—Charles Astley Walters, Stockport, Cheshire.—Charles John Gibb, Newcastle-on-Tyne.—Charles William Izod, Fladbury, Worcestershire.—Thomas Sympson, Lincoln.—Henry John Waterland, Thealby.—John Lloyd, Cerrigydwiou.—John Jones Parrish, Dudley.—Samuel Osborne Habershon, Rotherham, Yorkshire.—Howard Frederick Johnson, Birmingham.—John Packer, London.—Richard Branwell, Penzance, Cornwall.—John Willan, Kirkby Lonsdale.—Joseph Marshall, Upwell, Norfolk.—Simon Caldcleugh, Durham.—Samuel Clewin Griffith, Gower Street.

OBITUARY.

On the 11th of January, killed in an encounter with the Caffres, while on detachment from the camp, on the Kee River, Caffreland, Frederick Howell, Esq., Assistant-Surgeon of Her Majesty's Rifle Brigade, son of T. Jones Howell, Esq., of Prinknash Park, Gloucestershire.

On the 11th inst., at the house of his brother, at Bishops Stortford, Mr. J. J. Cribb, late surgeon, of Cambridge.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer	29.40
“ Thermometer	36.8
Self-registering do. ^b max. 67° min. 16.8	
“ in the Thames water — 47° — 44°	

^a From 12 observations daily. ^b Sun.

RAIN, in inches, .55: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 13.1° below the monthly mean (49.9°).

BIRTHS & DEATHS IN THE METROPOLIS
During the week ending Saturday, April 3.

BIRTHS.		DEATHS.	Av. of 5 Yrs.	
Males....	662	Males....	520	Males.... 468
Females..	661	Females..	484	Females.. 446
	1313		1004	914

DEATHS IN DIFFERENT DISTRICTS.

(34 in number;—Registrars' Districts, 129.
Population, in 1841, 1,915,104.)

WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326)	139
NORTH—St. Marylebone; St. Pancras; Islington; Hackney	(Pop. 366,303) 186
CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London	(Pop. 374,759) 175
EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar	(Pop. 393,247) 227
SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich	(Pop. 479,469) 277
Total	1004

CAUSES OF DEATH.

ALL CAUSES	1004	Spring av. 914
SPECIFIED CAUSES	1001	909
1. Zymotic (or Epidemic, Endemic, Contagious) Diseases ..	167	166
<i>Sporadic Diseases, viz.—</i>		
2. Dropsy, Cancer, &c. of uncertain seat	128	99
3. Brain, Spinal Marrow, Nerves, and Senses	177	150
4. Lungs and other Organs of Respiration	302	275
5. Heart and Bloodvessels	55	29
6. Stomach, Liver, and other Organs of Digestion	78	70
7. Diseases of the Kidneys, &c.	10	8
8. Childbirth, Diseases of the Uterus, &c.	11	10
9. Rheumatism, Diseases of the Bones, Joints, &c.	13	8
10. Skin, Cellular Tissue, &c.	2	2
11. Old Age	58	57
12. Violence, Privation, Cold, and Intemperance	60	26

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	8	Convulsion	44
Measles	5		
Scarlatina	7	Bronchitis	73
Whooping-cough	23	Pneumonia	57
Typhus	18	Phthisis	118
		Dis. of Lungs, &c.	15
Dropsy	8		
Sudden deaths ..	37	Teething	13
		Dis. Stomach, &c.	5
Hydrocephalus ..	25	Dis. of Liver, &c.	8
Apoplexy	31	Childbirth	7
Paralysis	20	Dis. of Uterus, &c.	4

REMARKS.—The total number of deaths was 90 above the spring average.

NOTICES TO CORRESPONDENTS.

We refer P. P., who writes to us from Brook Street on the Iris forceps, to our Notices to Correspondents in the number for April 2d.

Mr. Mackenzie's case of Carcinomatous Disease of the Pylorus has been received, and will have early insertion.

The *Manx Sun* duly reached us; but we have already in hand much more than we can find space for, in reference to the case which is the subject of comment. We shall be happy to receive a condensed summary of the author's views.

Communications have been received from Dr. Fairbrother, — A, — Mr. Grantham, — Mr. A. Prideaux, and Mr. G. Harvey.

ERRATA.—In the last number. At page 637, in reference to Dr. Robinson's paper, for "continued from page 17," read "page 317."—At p. 643, col. 1, eight lines from bottom, for "The friends," read "The funds."—At p. 655, col. 1, eight lines from top, for "almost," read "at least."—At p. 657, col. 2, in paragraph on the London Hospitals:—col. 1 refers to St. Bartholomew's; col. 2 to St. Thomas's Hospital.

Lectures.

LECTURES ON

ELECTRICITY AND GALVANISM,

IN THEIR PHYSIOLOGICAL AND THERAPEUTICAL RELATIONS,

Delivered at the Royal College of Physicians, in March, 1847,

By Dr. GOLDING BIRD, F.R.S.,

Fellow of the College, Assistant Physician to Guy's Hospital.

LECTURE I.

Connection of physic and physics—Sketch of the history of the subject—Constitution of matter—Ethereal medium—effects of its vibrations—Electric equilibrium—Disturbed by friction—By chemical influence—Luminous, thermal, and magnetic effects of electric discharge—Excited by change of temperature—Evolution of, in the human subject—Galvani's great discovery—Volta's explanation of—Aldini's researches and anticipation of some modern observations—Neuro-electric theories—Valli's hint at the centripetal origin of nerves—His frog battery—Matteucci's frog battery—Delicacy of frog galvanometer—Muscular currents—Currents of Batrachians.

MR. PRESIDENT,—More than twenty-three centuries have passed away since the great father of physic, the "divine old man" of Cos, felt the necessity for the adoption of some conventional terms by which he could express the influence under which the different phenomena, as well of the macrocosm of the world at large as of the microcosm of man himself, were developed. We are indebted to his ingenuity for the invention of the hypothesis of a principle which is supposed to influence all the manifestations of creative power observed in the universe. To this he applied the name of *φύσις*, viz. "nature." Hippocrates, however, invested his *φύσις* with a kind of intelligence, under which it was supposed to exert a tendency to promote all actions which were beneficial, and repress those which were injurious, to the well-being of man. He, indeed, seems to have regarded it as a kind of tutelary deity; in which dark notion he appears to have been followed by others, on whom a light had beamed which had not reached the distant ages of the Coan sage, and thus leaves them without an excuse for the adoption of such an opinion. We indeed know that

"Nature is but the name for an effect,
Whose cause is God!"—

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and in this light we profess to be investigators into its laws and phenomena. The different sections into which such investigations have been divided, have received the name of physical sciences, or sciences of nature. Of these, the departments devoted to an investigation of the structure and laws of the animal frame, in health and disease, become the especial object of pursuit of the practitioner of the healing art. If, however, his information be limited to such portions of knowledge exclusively, it will indeed be scanty. He can never be expected to extend the domains of the art he professes, or hope to add fresh appliances to the science of healing. "*Medicina est ars conjecturalis*" was the remark uttered some eighteen centuries ago, and such must ever be the case so long as the practitioner of medicine limits himself to his own exclusive pursuits. The light such a man can hope to throw upon any of the phenomena of life, will be often just sufficient to render his darkness visible. But he who, whilst devoting his attention chiefly to the art he professes, at the same time reflects upon it all the light he can derive from the collateral sciences, will often succeed in throwing upon it a beam which illuminates the phenomena he is studying to an extent previously un hoped for. Witness the influence of chemistry and general physics in unravelling the intricate web of many of the vital functions. There have, in all ages, existed men of narrow minds who have heaped their ridicule upon those who have possessed the advantages to which I have just alluded, as if medicine were the only science in which the element of excellence must consist in a profound ignorance of all other subjects. This miserable delusion is still not without its influence; but no better apology can be offered for the cultivation of the physical sciences than was made by the elegant Celsus:—"Quæ quidem studia, quamvis non faciunt medicum aptum orem tamen medicum faciunt." If these views should influence the practitioners of medicine in all nations, how much more ought they to throw a weight of responsibility on those of England. In all other of the European nations the appellation applied to the professor of our art has always some reference to his individual occupation. Whilst *ιστρος*, medicus, medicin, arzt, or their inflections, constitute his title in the Greek, Latin, French, and German tongues respectively, it is in our language alone that he is dignified by the title of *physician*, thus arrogating to himself a title derived from the *φύσις* of Hippocrates, and which it ought to be his greatest honor to deserve. It must ever be the high and deserved boast of this college, that it first sanctioned the application of the then heterodox and infant science of chemistry to medicine. Its illustrious

founder, the great Linacre, was the first physician who, in spite of the then degraded and despised condition of the votaries of chemistry, dared to lend the weight of his high authority and illustrious name to the support of their dogmata, and by effecting an amicable union between the chemists and Galenists, laid the foundation for most, if not all, the improvements which the art of medicine has undergone since the era of our first president.

I am sure that all whom I have the honor of addressing will concede to me the importance of the physician frequently making excursions into the domain of the physical sciences, and culling from it whatever blossom he thinks likely to bear fruit in his own peculiar department. That he may often find his cherished sucklings abortive is *probable*; but that he will as often thus graft a vigorous shoot on the venerable trunk of medicine is *certain*.

I have, Sir, ventured to make these remarks as in some sense apologetic for the subject-matter of these lectures, which, at your own wish, are no longer to be limited to the mere details of the *materia medica*, but are permitted to be devoted to a consideration of some of the applications of physics to medicine. I could only wish that I were more fitted for this honorable task, and would beg to deprecate your patience should I fail in performing this duty properly; for if, used as I am to the duties of the lecture room, I find it impossible to enter the theatre of Guy's Hospital without a deep sense of my responsibility, how much more must be that feeling enhanced when I find myself addressing the fellows and licentiates of this College! many of whom may truly be said to be the conscript fathers of my profession, and to whose example and guidance I have long looked up with feelings akin to awe and veneration.

Few subjects have more frequently, or with greater interest from time to time, attracted the notice of the physician than the nature and applications of electricity, and its modifications to medicine and physiology. Too frequently, however, has the importance of this wonderful and ever-present agent been overlooked, and its application to medicine left to the empiric. Recent researches have invested this matter with the deepest interest, both to the physiologist, the chemist, and man of general science; more particularly when, from late investigations, it appears that we are constantly generating this agent, and that *quoad* the supply of electric matter, man far exceeds the torpedo or the electric eel, and is only prevented from emitting a benumbing shock whenever he extends his hand to greet his neighbour, from the absence of special organs for increasing its tension. I therefore pur-

pose, as the first subject of these lectures, to draw the attention of the College to the part played by electricity in a physiological as well as therapeutic point of view, and hope to shew that the functions this agent fulfils in health, and its applications in disease, are of far greater importance than have been hitherto considered.

More than 2000 years have elapsed since Thales discovered that pieces of amber, when rubbed, attracted light bodies, and explained the phenomena he observed by supposing that the amber possessed a soul, was endowed with animation, and was nourished by the attracted bodies. Nothing further was added to the observations of the Milesian philosopher until the 13th century, the knowledge of electricity remaining for 1500 years in the same state as among the Indian children on the banks of the Orinoko at the present day, who, according to Humboldt, amuse themselves with exciting by friction the dry and polished seeds of rushes, and attracting filaments of cotton with them. About the time alluded to, a celebrated physician, Gilbert, of Colchester, a contemporary, according to Dr. Friend, of our first Edward, in his essay "de Magnete," recorded several phenomena connected with electrical excitation, and gave to them the title of electricity—a term derived from the Greek word *ἤλεκτρον*. Notwithstanding the very considerable developments which the science of electricity received, it was not until the beginning of the present century that anything of real value was done towards elucidating its connection with physiology.

Few things are more interesting and instructive than to trace the birth and progress of an infant science,—to watch the labours by which it struggles into existence against the obstacles opposed to it by ignorance, prejudice, and those influences which the illustrious father of the inductive philosophy, the great Lord Bacon, so happily denominated idols, inasmuch as men are too apt, in this blind fealty to the *idola specus, theatri et fori*, to shut their eyes to the first bursts of truth; nor is it until the light of a discovery blazes out with sufficient brilliancy to dispel the mists and fogs of error and preconceived opinions, that much is done towards giving it its proper position in the circle of the sciences. With all such difficulties had the infant science of galvanic or physiologic electricity to contend with; and, had time permitted, it would have afforded me no small pleasure to have pointed out its course from its discovery to the present time. I must now, however, content myself with the briefest glance at its history.

Philosophers have almost universally adopted the opinion of matter being constituted by the aggregation of atoms possess-

ing a spherical figure. No one can cast a glance upon a diagram representing a series of spheres without at once perceiving that such bodies cannot touch each other except at certain parts of their peripheries, and consequently the existence of interspaces is obvious; and few subjects in the range of physical science have attracted more attention than the question of the condition of these interspaces, whether they were merely empty voids, or full of some form of matter—whether, in a word, they were *vacua* or *plena*. They have now long been considered to be filled with a light ethereal form of matter, identical, it is presumed, with that which extends beyond the confines of our atmosphere into infinite space, constituting that great ocean of scarcely ponderable medium in which the great orbs of our system roll on in their respective spheres. The existence of such a medium is now beyond all doubt or question, from the evidence of its retarding influence upon some of those light cometary satellites, some, probably, scarcely denser than mere whisks of vapour, which occasionally visit the neighbourhood of the earth, and which, from their levity, become excellent tests of the influence of a retarding medium. Sir Isaac Newton attempted to calculate the density of this ether, and found that it must be at least 700,000 times less heavy than the air we breathe. Compared to it, therefore, our atmosphere would be far denser than is the solid mass of a granite rock in comparison with air. We know that gaseous bodies, when thrown into a vibratory motion, give rise to certain curious phenomena very different from those observed when in a state of rest. When such vibrations are performed with a certain regularity and rapidity, they give rise to musical sounds or tones. In like manner, when the interstitial ether is made to assume analogous movements, a new set of phenomena are displayed, differing in their character according to the amplitude and rapidity of their undulations. Then, when the particles of ether undulate with a rapidity not exceeding 458 millions of millions in a second of time, we have the well-known phenomenon of heat or caloric evolved; when the undulations are increased, so as to range from this number to 727 millions of millions, the various tints of light become developed in addition to heat; whilst, if the vibrations exceed this number, little heat and scarcely any light is to be detected, but they are replaced by the actinic or tithonic phenomena, under whose influence the magic results of the daguerreotype and photography are produced.

Whether electricity is distinct from this ether, or whether the phenomena it produces when it is in what is called a free state, and which are regarded as characteristic of its

presence, depend upon ether assuming vibratory movements differing in amplitude and velocity from those producing light, heat, and photographic effects, is yet unknown. That there is a remarkable connection between light, heat, and electricity, is, to say the least, quite certain; for one can never be excited without calling into existence one or both the others. The *conventional* theory now generally adopted is, that electricity is a compound imponderable form of matter composed of two elements, denominated the positive and negative electric fluids, which, when separated, produce analogous phenomena, but, when united, neutralise each other so effectually that the existence of the neutral fluid can never be detected, save by separating its component elements. Whilst heat and light are readily detected when set free, by their well-recognised effects, we have, in dealing with the subtle agent whose properties we are investigating, to use a new series of tests. These are either founded on the law that bodies similarly electrified repel each other, or on the development of the phenomena of light and heat. Nothing is easier than to demonstrate the existence of electricity in ponderable matter, for it can scarcely be submitted to any mechanical, chemical, or thermal influence without decomposing the combined electric fluids.

I will now abruptly draw the corner of my handkerchief over the cap of the gold-leaf electrometer before me, and thus in an instant shall decompose its neutral electricity, wiping away (as it were) the positive fluid, and leaving its gold leaves negatively electrified, which thus diverge to the extent of an inch or two. On touching the cap with my finger, I give back the positive fluid in sufficient quantity to neutralise the negative electricity of the gold leaves, and equilibrium is restored.

To shew the influence of chemical action in disturbing the normal electric equilibrium, I have here a few glass vessels in which a little nitric acid is undergoing decomposition. The result is, that the electricity of the decomposing atoms is resolved into its two elements, the negative fluid being impelled towards my right hand, and the positive towards my left; and, if the two ends of the series of platinum and zinc plates are connected by these wires, the separated elements unite, and equilibrium is restored. With these separated fluids I can produce remarkable effects, depending upon the energy with which their union occurs. I now allow their union to be effected by means of this piece of platinum wire, which becomes brilliantly ignited, from the violence of the neutralisation or discharge of the two fluids, being sufficient to set in active vibration the interstitial ethereal elements of the platinum,

and thus produce the phenomena of heat and light you are now witnessing. I now allow the discharge or union to take place between these fragments of carbon; the intense evolution of light well attests the violence with which the ether is made to vibrate. Now I will compel the two elements to traverse this water before they unite: so powerful is the influence of these wondrous agents, that chemical affinity is annihilated, the water is resolved into its elements, and torrents of oxygen and hydrogen are evolved. Lastly, I have before me two bars of iron surrounded by wire; these are at present merely inert metal, possessing nothing peculiar, save in figure. Let us now compel the two fluids to traverse the wire round these bars before they unite. In an instant the bars assume new properties, becoming magnets of enormous power, rapidly and violently attracting the iron ball suspended over them, and seizing, with almost uncontrollable power, the bar of iron I now present to them.

I said that change of temperature is sufficient to disturb the electric equilibrium of bodies. This is invariably true, and a single illustration will, I hope, be regarded as sufficient.

On the table before me is a large magnetic needle suspended on a pivot; some coils of insulated copper wire pass above and below the bar, the apparatus being, indeed, the well-known galvanometer. Here is a bar of the metal bismuth; and I will twist the terminations of the wire coil round the ends of the bar. The needle remains at rest; no disturbance of electricity occurs. But observe what occurs the instant the flame of a spirit-lamp comes in contact with one end of the bismuth. The magnetic needle, large and heavy as it is, begins to move, and soon traverses an area of thirty degrees. By the propagation of the calorific vibrations through the bismuth, its electric equilibrium is restored, and a current of the positive and negative fluids traverses the wire coil, and produces its well-known effects upon the magnet.

I trust I have not trespassed too long upon your patience in thus bringing before you facts with which I am sure all present are familiar. I felt, however, that your time might not be uselessly spent in thus recalling to mind the well-recognised effects of electricity, before passing to its more occult phenomena.

All are ready to admit the presence of electricity in inanimate matter, and, perhaps, to extend it to those animals which are endowed with the mysterious property of benumbing the hand which grasps them; still, all may not be so willing to accord these attributes to man, and to regard him as endowed with a large accumulation of electric fluid.

But nothing is easier than to elicit ample evidence of this truth; and I can readily produce the phenomena of divergence by my own electricity. For this purpose I will stand upon a stool with glass non-conducting legs, and thus, in an electrical sense, am no longer an inhabitant of earth, being insulated from its electricity. Placing a finger of one hand in contact with the cap of the electrometer before me, I with the other will briskly draw a non-conducting comb through my hair, the comb being connected with the earth by a wire. Immediately the gold leaves diverge; indeed, I have evolved so much electricity, that one of the leaves has become torn by the violence of its divergence from its companion.

In inanimate nature, we find electricity playing a part so important, that it could scarcely be dispensed with. Many of the most important of the chemical phenomena of the universe would disappear in its absence. Little of the intensity of chemical affinity, as it is termed,—few of the marvellous phenomena so profusely scattered for our inspection and use in the great mineral districts of this and other countries would be developed,—were it not for the presiding influence of the wonderful thing we call electricity. There can, indeed, be little doubt of its being one of the most energetic and most generally diffused means employed by the All-wise Creator for the production of most of the phenomena of the material world.

If, then, this agent exists so freely diffused in the animal, can we doubt its having some important function to perform? In the torpedo and silurus its influence is obvious, in furnishing them with powerful weapons of defence and attack; but where its presence is not so evident—where it does not arrest our attention by endowing the animal with a power which enables it to simulate the effects of the lightning flash—can it exist without fulfilling some important purpose? *Natura nihil agat frustra* is a universally admitted axiom; nor must we presume otherwise even when the subject we are investigating appears less endowed with useful applications.

Prof. Galvani, of Bologna, in 1791, published a commentary “*de Viribus Electricitatis in Motu Musculari*,” and announced those facts which laid the foundation of that science which bears his name. He then stated that a particular form of electricity, denominated by him *animal electricity*, existed in animals; and he believed he merely excited and rendered sensible this electricity by coating a nerve and muscle with metals, but did not regard the latter as the real source of the electricity.

This celebrated experiment is well known I am sure to all present, but is one of really

so marvellous and remarkable a character that, repeat it as often as we may, it can never be looked at without a feeling of wonder and delight. I will take the legs of a frog denuded of their skin, and attached by the lumbar nerves to a portion of the spine. Allowing them to rest on a glass plate, I will place a piece of zinc in contact with the nerves, and allow the feet to rest on a thin slip of silver. They are now at rest, and appear, as they indeed are, dead and powerless. But there exists a power I can call into action which will endow these dead limbs with an apparent life. The only spell required to evoke this power is this piece of wire, with one end of which I will touch the zinc, and with the other the silver. Instantly the legs violently contract, and kick away the silver plate.

It has been lately stated by Prof. Matteucci, that this curious observation was not original with Galvani, but was made some time before by the celebrated Swammerdam; and the experiment was exhibited by him in the presence of the Grand Duke of Tuscany.

Shortly after the announcement of this discovery, Prof. Volta, of Pavia, in repeating this and other analogous experiments, arrived at a different conclusion; and he shewed that the electricity was really excited by the metals, and the contraction of the muscles of the frog was only an index of its existence. Although these and other discoveries of that great man obscured for a time the views and researches of the illustrious Galvani, attention was again drawn to them by the experiments of his talented nephew, Prof. Aldini, of Bologna. He was inspired with so much zeal in the defence of his uncle's theory, that he travelled through France and England for the purpose of demonstrating the truth of his views; and, in the presence of the medical officers and pupils of Guy's Hospital, he, in the year 1803, supported and defended a series of propositions so satisfactory and conclusive, that he was presented by his auditors with a gold medal commemorative of his labours. On leaving England, these propositions, and the arguments in support of them, were published in a quarto volume, which seems to have attracted but little notice either here or on the continent of Europe. Scarcely any mention is made of Aldini by more modern writers; and not many weeks ago I removed the volume from the library of the Royal Medical and Chirurgical Society with its leaves uncut.

Prof. Aldini's propositions and conclusions are so important and of such high interest, that I shall now briefly refer to some of them, as they demonstrate to my mind, in a most satisfactory manner, the existence of free electricity in animals, and, as will appear to all conversant with this branch of physiology,

most remarkably anticipate the late researches of his countryman, Prof. Matteucci.

PROF. 1.—Muscular contractions are excited by the development of a fluid in the animal machine, which is conducted from the nerves to the muscles without the concurrence or action of metals.

Exp. A.—In proof of this statement, Aldini procured the head of a recently-killed ox. With the one hand he held the denuded legs of a frog, so that the portion of the spine still connected with its lumbar nerves touched the tip of the tongue, which had been previously drawn out of the mouth of the ox. The circuit was completed by grasping with the other hand, well moistened with salt and water, one of the ears. The frog's legs instantly contracted; the contractions ceasing the instant the circuit was broken by removing the hand from the ear.

The intensity of these contractions was much increased by combining two or three heads so as to form a sort of battery, just as Matteucci forty years after found to be the case with his pigeon and rabbit battery.

Exp. B.—Aldini, having soaked one of his hands in salt and water, held a frog's leg by its toe, and, allowing the ischiatic nerves to be pendulous, he brought them in contact with the tip of his tongue. Contractions instantly ensued from a current of electricity traversing the frog's leg in its route from the external or cutaneous to the internal or mucous covering of the body. By this very interesting experiment Aldini demonstrated the existence of the musculo-cutaneous current, and completely anticipated its re-discovery by Donné some five-and-thirty years after.

Aldini, in connection with this experiment, declares that the pendulous nervous filaments were distinctly attracted by the tongue; and to this marvellous and hitherto uncorroborated statement calls to witness the then physicians and professors of Guy's and St. Thomas's Hospitals, as well as two well-known fellows of this College, Sir Christopher Pegge and Dr. Bancroft, to whom he states he shewed this experiment at Oxford.

Exp. C.—The proper electricity of the frog was found by Aldini to be competent to the production of contractions. For this purpose he prepared the lower extremities of a vigorous frog, and, by bending up the leg, brought the muscles of the thigh in contact with the lumbar nerves: contractions immediately ensued. This experiment is now a familiar one, and has been repeated and modified lately by Müller and others.

Exp. D.—A ligature was loosely placed round the middle of the crural nerve, and one of the nerves applied to a corresponding muscle: contractions ensued;

but, on tightening the ligature, convulsions ceased.

This statement is very important, as upon its accuracy or error depends what has been regarded as one of the tests of the identity or diversity of the electric and nervous agencies. It was repeated soon after Aldini's announcement of the fact by an Italian physician of celebrity, Signor Valli, who commenced his researches indeed in 1792, only a year after the publication of Galvani's discovery, and he found if the ligature were applied *near the muscle it did not allow the contraction to occur, but if nearer the spine it did not prevent it*. This was afterwards corroborated by Humboldt. I may here remark that it has been since found by Prof. Matteucci, that if care be taken to insulate the nerve, a ligature does arrest the contraction, as well as the passage of a very weak artificial electric current.

Little occurred during the subsequent 35 years to modify these conclusions or add to their interest, repeated and extended by numerous observers, especially by Humboldt, and more lately by Müller. They were almost lost in the blaze of novelty surrounding the vast discoveries made on the constitution of inorganic matter by the magic pile of Volta, an instrument which, in the hands of our late talented countryman, Sir Humphry Davy, resolved many bodies previously considered simple into their constituent elements, and quite changed the face of chemistry; and still more recently, directed by the gifted genius and vast attainments of a Faraday, has led to the discovery of new sciences, and of properties of matter before undreamed of; indeed, have promised to lay open to us the secrets of the working of the invisible agents presiding over the ultimate constitution of material masses.

I cannot in this place pass over in silence the neuro-electric theory of Galvani. He assumed that all animals are endowed with an inherent electricity appropriate to their economy, which electricity, secreted by the brain, resides especially in the nerves, by which it is communicated to every part of the body. The principal reservoirs of this electricity he considered to be the fibres of muscles, each of which he regarded to have two sides in opposite electric conditions. He believed that when a muscle was willed to move, the nerves, aided by the brain, drew from the interior of the muscles some electricity; discharging it upon their surface, they thus contracted and produced the required change of position. This theory was adopted and defended by Prof. Aldini.

Valli, to whose experiments I have before referred, believed the neuro-electric fluid to be secreted by the capillary arteries supplying the nerves, by which it became conveyed

to the muscles, which he believed to be always in an electric condition, the interior being negative, the exterior positive. He also noticed the curious fact, that in experiments on frogs, the nerves lose their irritability to the stimulus of electricity at their origin first, retaining it longest at their extremities; and on this hazarded an opinion that probably the distal extremities are really the origin of these structures. Both these statements are of deep interest; the former from its bearing on the late researches of Prof. Matteucci, the latter from its curious connection with some views of Dr. M. Hall, regarding the centripetal origin of incident nerves.

It may now be asked, what proof do we possess that the action on muscular fibre to which I have alluded, is really produced by electric currents? It is true that this is generally taken for granted, but still it is important to review our proofs. One great evidence in favour of this opinion is at once found in the fact, that contractions produced in frogs can only be excited when connection is made between a nerve and muscle by a conductor of electricity, all other bodies interfering with the production of this phenomenon. The only thing amounting to positive proof before the researches of Matteucci is an experiment of Valli, in which he formed a sort of bottle of fourteen prepared frogs, and by the electricity thus accumulated succeeded in producing the phenomena of divergence in a delicate electrometer. It is to be regretted that no accurate account of this experiment has been left on record; for if true, it must be regarded as most satisfactory in proving the identity of the electricity of the frog with that obtained from other sources.

The recent researches of Prof. Matteucci, of Pisa, have, however, completely set this matter at rest. He has incontestably proved that currents of electricity are always circulating in the animal frame, and not limited merely to cold-blooded reptiles, but are common to fishes, birds, and mammalia. From the researches of this philosopher it appears that a current of positive electricity is always circulating from the interior to the exterior of a muscle; and that although the quantity developed is exceedingly small, yet that by arranging a series of muscles having their exterior and interior surfaces alternately connected, he developed sufficient electricity to produce energetic effects. By thus arranging a series of half thighs of frogs, he succeeded in decomposing iodide of potassium, in directing the needles of a galvanometer to 90°, and by aid of a condenser caused the gold leaves of an electrometer to diverge. When more delicate tests of the electric current were made use of,

their existence was demonstrated in the muscles of all animals, and even of man himself. Mr. Wilkinson, in his *Elements of Galvanism*, published in 1804, calculated that the irritable muscles of a frog's leg were no less than 56,000 times more delicate as a test of electricity than that of the most sensitive condensing electrometer. Mr. Wilkinson found that two pieces of zinc and silver, each presenting a superficial surface of $\frac{1}{100}$ inch, produced violent contractions in the leg of a prepared frog; whilst two circular plates of zinc and copper required to be brought twenty times in contact with the condenser, before any sensible divergence of the gold leaves of an electrometer was produced. By comparing the area of these plates, multiplied by the number of contacts, with the superficial surface of the minute pieces of zinc and silver employed to affect the frog's leg, he arrived at the conclusion I have just related.

Prof. Matteucci availed himself of this circumstance in his contrivance of the frog galvanoscope. This is made by skinning the hind leg of a frog, and separating it from the trunk, taking care to leave as long a piece of sciatic nerve projecting as possible. The leg is then placed in a glass-tube, the nerve hanging over. In using this contrivance all that is necessary is to let the piece of nerve touch simultaneously in two places, the part where electric condition is to be examined. If a current exists, the muscles of the leg will become convulsed at the moment of contact.

In this way the Professor detected a current in man, by making a clean incision into the muscles of a recently amputated limb, and bringing the nerve of the frog galvanoscope in contact at once with the two lips of the wound, contraction instantly occurred.

In pigeons and fowls, as well as in eels and frogs, currents were readily demonstrable; indeed, by alternating a series of the former by approximating their sides, the raw surface of the muscles of which had been exposed by a quickly made cut, Matteucci formed a sort of battery resembling that made of the thighs of frogs. The result of this experiment thus proved that energetic currents existed in hot as well as cold-blooded animals. Indeed more intensely, but very soon disappearing on the death of the animal. These researches completely corroborate the statements and experiments of Aldini made many years earlier, especially that very remarkable one before alluded to, in which he produced contractions of the legs of a frog by bringing them in contact with the tongue of an ox.

By means of the frog galvanoscope, not only the existence, but the direction of a current can be discovered; for if the leg be

kept for a short time before using it, so as to a little diminish its sensibility, the muscles will contract on *making* contact with the body under examination, if the electricity passes from the nerve to the leg, whilst it will contract on *breaking* contact if the electricity is moving in the opposite direction. Using this delicate test for an electric current, Matteucci discovered that the intensity of such currents rises in proportion to the rank occupied by the animal in the scale of being, their duration after death being in the inverse ratio. The Professor discovered that when a mass of muscle belonging to a living animal, or one recently dead, was placed in contact with a piece of wire so that one end of it touched the tendon, and the other the body of the muscle, a current could always be detected circulating in the mass in the direction from the tendon to the external surface of the structure. He further demonstrated the very important fact, that everything which decreases the *vis vite* of the animal diminishes the evidence of electricity immediately after death. Thus, when frogs were killed by asphyxia, either by immersion in sulphuretted hydrogen, or water freed from air, the electricity detected in their femoral muscles sunk to a minimum; whilst the thighs of frogs whose hearts had been previously removed gave less evidence of the existence of this important agent than those which had not been thus injured.

It is well known that certain fishes possess a peculiar apparatus by which they are enabled to accumulate the electricity developed by the vital processes going on in their structures, and thus produce the ordinarily recognised effects of tension, as shewn in the benumbing shock felt on grasping a torpedo or silurus. This endowment is, however, peculiar to very few creatures, and all the electricity developed in the frames of other organisms is only to be detected by comparatively delicate tests. It is, however, very remarkable that in the batrachians generally, especially the frog, an electric current, denominated by Matteucci the "proper current," possessing some approach to tension, and capable of deviating the needle of a galvanometer to 5°, can readily be detected; its direction is always definite from the feet towards the head. This curious and remarkable fact was I believe first pointed out by Nobili, but accurately studied by the Pisan philosopher to whose researches I have so often referred.

A COURSE OF
LECTURES ON DENTAL PHYSIO-
LOGY AND SURGERY,

Delivered at the Middlesex Hospital School,

BY JOHN TOMES, Esq.
Surgeon-Dentist to the Hospital.

LECTURE XII.

Disease of the dental pulp—Irritation of the dental pulp—Causes and treatment—Inflammation, general and partial, of the pulp—Causes and treatment.

DISEASES OF THE DENTAL PULP.

THE dental pulp, composed of vessels, nerves, and the remains of the formative tissue, is, like other vascular textures, liable to irritation, to inflammation, and its events. These, in their various forms and consequences, it will now be our business to trace.

Irritability of the pulp.—By irritability here is meant, an increased susceptibility to pain and to morbid action, unattended with organic change. A cause productive of no inconvenience in a healthy tissue will in an irritable one induce pain and increased action, and, if long continued, inflammation, and its various results. The most frequent cause of irritability is caries, immediately prior to its laying open the cavity. When a tooth is in this state, the pulp, having its natural defence much weakened, is consequently much exposed to sudden changes of temperature, and also to the contact of the fluids of the mouth, by their oozing through the diseased or disorganised dentine. Hence the pulp becomes irritable; so that when hot or cold, or sweet or acid matters are taken into the mouth, and come upon the tooth, a more or less severe twinge of pain is felt, which may last but for a moment, or may continue for some minutes, and then subside, the time varying in each case with the degree of irritability of the pulp. Again, if the pulp or periosteal membrane of a tooth be inflamed, the pulps of the neighbouring teeth may become highly sensitive, and even painful, and consequently unfitted for use. Sometimes pain in one tooth will be followed by pain in the corresponding tooth of the opposite side, and even of the opposite jaw; indeed, occasionally disease of a pulp itself, unattended with pain, will induce pain in the pulp of another perfectly sound tooth. In these cases we can explain the irritation produced in neighbouring teeth only on the supposition that the nervous fibrils destined to be distributed to the affected tooth are irritated in their passage past the pulp that is really diseased.

Irritation of the dental pulp terminates in one of three ways:—

First, the cause being removed, the irritation subsides, and the pulp returns to health, as instanced where a tooth with an inflamed pulp has been extracted, other teeth that have been affected by it become again healthy. Again, a tooth irritable from incipient caries becomes healthy after the cavity has been plugged.

Secondly, the pulp may become converted into dentine opposite the point from whence the source of irritation acted, and thus form a barrier for itself against the ingress of the irritating agent. We see instances of this event of irritation in cases where the pulp is converted into dentine opposite a point from which a portion of the enamel and of the dentine composing the crown has been removed by wear, by fracture, by the use of the file, or even by caries (Figs. 32 and 40).

FIG. 40.



FIG. 40.—A longitudinal section of an incisor worn by mastication, with the pulp-cavity filled up by calcified pulp. The dotted lines show the shape of the tooth and cavity in its original state.

Indeed, if the pulp of a tooth extracted for caries and subsequent odontalgia be carefully examined, there will, with few exceptions, be found more or less calcification near the point towards which the disease had advanced.

Thirdly, the irritation may terminate in inflammation and suppuration of the pulp. This result usually follows long-continued irritation, arising from a local cause, as caries, or simple fracture of a tooth.

Treatment.—Where one tooth is rendered painful in consequence of disease in another tooth—that is, is sympathetically affected—the treatment must be addressed to the primary offender, the cure or removal of which will be followed by the subsidence of the irritation of the one sympathising. Should, however, the irritation have a local origin, and arise from loss of substance in the crown of the tooth by caries, the tooth should without delay be carefully plugged with gold or other stopping; the irritating agents will then be hindered from filtering through upon the pulp; and though the metal used for plugging transmits changes of temperature

more readily than the sound portion of the tooth, yet the pulp soon becomes injured to this source of irritation, or shuts it out, by calcifying opposite to the plug—an event very desirable in all such cases. A sudden change of temperature, especially from hot to cold, will, in most teeth that have been recently plugged, supposing the plug to be of any size, produce sharp pain for the moment. The paroxysm of pain, however, quickly subsides, and, after a while, cannot be reproduced by a similar cause.

If the loss of substance in the crown arises from fracture, time, with the application of astringents to the exposed and sensitive dentine, together with a careful avoidance of unnecessary sources of irritation, will effect the cure. If the crown has suffered from undue wear, similar treatment should be pursued, with a more careful use of the teeth. If the bicuspid or molars are reduced to this state, a cap of gold may be fitted to them, on which the patient may masticate for a time. Should this, which is often a most serviceable plan, be adopted, the cap must be removed several times in the course of the day, and the tooth or teeth carefully brushed: it must also be left off during the night, otherwise the teeth may become the subjects of caries.

Inflammation of the dental pulp.—The pulp, in common with all vascular tissues, is liable to inflammation; and, like those which are confined in an unyielding case, is the seat when inflamed of violent throbbing pain. We are most of us pretty well acquainted with the sensations which accompany inflammation of the dental pulp, seeing that that condition is, in nine cases out of ten, the cause of tooth-ache.

The structural and physical changes of texture that accompany or constitute inflammation are very much the same, whatever soft tissue may be the seat of the disease. I need not therefore occupy your time in a minute description of these, but shall content myself with noticing those appearances that generally accompany inflammation of the dental pulp. The possibility of swelling is precluded by the dense case in which the pulp is contained, unless this is somewhere imperfect, and then the enlargement can only occur at that point. Redness is, however, always present, and is occasioned by an increased size of the capillaries; these vessels, invisible to the naked eye when healthy, become very apparent under inflammation. The healthy pulp is a very light pinkish grey, but an inflamed pulp is bright scarlet. The best method of getting at the pulp for examination is to screw the body of the tooth in a vice till it breaks. The broken pieces may then be carefully removed, and the pulp examined. *This plan is preferable to sawing through the tooth, for then the*

saw-dust gets upon the diseased part, and obscures the view.

The whole of the pulp may be involved in disease, or only a portion, the amount chiefly depending upon the nature of the producing cause, or, in other words, there may be *partial* or *general* inflammation of the pulp. Thus, if the pulp cavity be entire, and the pulp be subjected to prolonged irritation, the whole substance of the organ will become inflamed; on the other hand, if an opening has, from any cause, been made into the pulp cavity, the disease may be confined to that part situated near the opening. It is not difficult to conceive why this should be, when we consider that in the latter case the surface subjected to the direct action of the irritating agent will be confined to that exposed by the opening; and further, that any discharge poured out from the inflamed part will find a ready passage for escape, and hence produce no direct influence upon the unaffected part of the pulp, whereas, had the pulp cavity been entire, any swelling of or discharge from one part of the pulp finding no escape, would press equally on all parts, and thus the whole organ would become involved in disease. Again, the inflammation may be general and acute, and speedily terminate in the destruction of the pulp, or, on the other hand, it may be chronic, and the pulp may, under disease, retain its vitality for a considerable time. The degree of the inflammation will depend upon the character of the producing cause, upon the previous state of the pulp and of the walls of the pulp cavity, and also upon the state of the system at the time of the attack. If the pulp has been rendered irritable by gradual thinning of the walls of the cavity, the inflammatory action will probably be general, and terminate in destruction of the part, as illustrated in the following case.

A short time since, a patient applied for treatment who stated that she had suffered severe throbbing pain in a first molar of the lower jaw for two days, that the pain, at first slight, had gradually increased in intensity, and that the adjoining teeth had now become tender, so that the mouth could not be closed without pain. The aching tooth had suffered from superficial caries of the masticating surface, which disease had thinned the walls, but had not made an opening into the pulp cavity. After removal, the tooth was very carefully examined, and the cavity found to be perfectly entire. The pulp had been inflamed, was dead, offensive, and bathed in pus, as ascertained by the microscope, while in its substance a few small nodules of dentine could be distinguished. The periosteum of the tooth was becoming slightly affected about the extreme point of the fang. This case presents no

peculiarities, but is on the contrary typical of general and acute inflammation and subsequent suppuration and death of the dental pulp, arising from prolonged irritation, caused either by irritating fluid oozing through the thinned wall of the pulp cavity, or by sudden alternations of temperature arising from the same cause. A similar state of disease not unfrequently comes on from exposure of the pulp by caries; in such cases the inflammation commences at the exposed point, and extends to the rest of the pulp. Another cause not unfrequent among the more wealthy, is the closure by plugging of a carious opening, through which a small portion of discharge thrown off from the exposed portion of the pulp had habitually escaped. Compression of the pulp by the bending or bulging inwards of the softened or thinned wall of the cavity, or mechanical injury from any cause, is also an occasional excitant of general inflammation. The pain attendant upon general inflammation of the pulp mostly commences with slight gnawing, which gradually increases and becomes throbbing, and lasts till the pulp is destroyed. The pain then ceases, or is altered in character to a dull heavy pain, and at this period the side of the face very commonly becomes more or less swelled and oedematous. This change of symptoms indicates that the pulp has been destroyed, and the occurrence of dull heavy pain that the periosteum has become the seat of inflammation. Supposing, however, the inflammation to have resulted from compression, then the pain will of course set in suddenly. If, again, the general is the consequence of previous local inflammation, as the one is a mere extension of the other, the exact period of change cannot be declared. General inflammation, when there is no outlet from the cavity, excepting through the fangs, unless arrested at an early stage, terminates in suppuration and death of the pulp. If there be an opening into the cavity the inflammation may perhaps partly subside, but the pulp seems never to return to a state of health. Again, if the inflammation result from exposure from fracture of the crown of the tooth, destruction of the pulp is the usual consequence.

The consequences of general inflammation of the dental pulp that may be entailed on the neighbouring parts are numerous and varied. The violent pain may cease and the face swell, the swelling may subside, and the tooth lose all tenderness: the patient soon forgets the attack, but if the tooth be examined it will be found to have assumed a greyish hue, thereby indicating that the dentine of the pulp cavity is necrosed, and that the tooth holds its vitality from the *periosteum* alone. The tooth, however, may remain useful for years; hence, this is the most favourable result of general inflamma-

tion of the pulp; but unfortunately it is a rare one. It is far more common for the inflammatory action to extend to the *periosteum* of the fang, and thus induce death of the end of the fang and consequent gum boil. Indeed, the disease may not stop here; the maxillary *periosteum* may become inflamed, and lead to necrosis of a large part of the jaw. Two cases in which this has occurred are now in attendance at the hospital.

Treatment.—Inasmuch as the pulp very rarely becomes the subject of general inflammation unless the crown has been previously injured, either by caries, wear, or mechanical violence, it will be better to remove the tooth at once, rather than to endure the pain that would be consequent on its continuance, and run the risk of injury to the neighbouring parts; unless, indeed, it be a front tooth of the upper jaw, where, in some patients, it is desirable to preserve the fang for pivoting; in that case the crown only must be cut off and the pulp destroyed. If the disease has resulted from plugging, the plug should be immediately removed, by which measure if the pulp itself is not saved yet the disease will possibly not extend to the *periosteum* of the tooth. Several years since, I had a tooth plugged; the cavity was occasioned by caries, and the pulp was exposed at one point, but whether before or during the operation I could not tell. I experienced considerable pain at the time, but within an hour the tooth became quite easy; for two months I had no pain or uneasiness, but at the end of this time a gnawing pain commenced, which gradually increased and became throbbing. At the end of twelve hours from the commencement of the pain I removed the plug; the pain ceased within a few minutes, and the mouth was filled with a most disagreeable foetid taste. On subsequent examination it was found that the body of the pulp had perished, while that occupying the fang had survived.

I have found in practice that it is far from uncommon for a tooth plugged after the pulp has been slightly exposed, but previous to pain being suffered, to answer for one, two, or even three months, and then to be attacked with inflammation of the pulp; thus obliging the removal of the plug or the extraction of the tooth. In practice, therefore, whenever you find a plugged tooth attacked with gradually increasing pain, the plug should be immediately removed; then, if the pain ceases and the tooth be of any service, it may be retained. In such case the cavity should be filled daily with cotton wool saturated in a solution of mastic in spirits of wine; this makes a good temporary plug for the exclusion of food, and may be used till the tooth will bear a more permanent stopping.

Original Communications.

PHYSIOLOGICAL EFFECTS OF THE INHALATION OF ETHER.

By Dr. BUCHANAN.

(Paper read to the Philosophical Society of Glasgow.*)

[Concluded from p. 671.]

THE effects of alcoholic liquids are too well known to require minute description, but their more prominent effects are, in the first place, an exhilaration and excitement of mind, which gradually passes into a state of narcotism or stupefaction; and, in the second place, excitement and invigoration of the action of the heart, which seems to continue throughout; for the feebleness in the heart's motions, which comes on in deep intoxication, is probably the consequence of the narcotised state of the brain.

The effects of ether may be described in the very same words. This the identity of composition of the two substances might have led us to anticipate; for alcohol is just the hydrate of ether, or ether *plus* an atom of water—the two bodies not differing in composition more than oil of vitriol does from anhydrous sulphuric acid. The moment the dry acid comes into contact with water, it is converted into oil of vitriol; and ether, when kept long in contact with water, is converted into alcohol.

There is, however, a difference in the physical qualities of the two substances, which renders each of them only adapted to a certain mode of administration.

Alcohol is miscible in all proportions with water, and forms a palatable and too insinuating beverage. It is thus well adapted for administration by taking it into the stomach—while it is far less volatile than ether, and therefore is less adapted for inhalation.

Ether, on the other hand, is not miscible with water, unless the latter be in great excess (1 ether to 10 water). Hence it is not adapted to be administered by taking it into the stomach; for its hotness cannot be overcome by dilution, and it acts as a violent local irritant. How much less alcohol would be consumed, if it could only be drunk

in the form of a highly rectified spirit, and its fiery qualities could not be corrected by dilution! Physicians seldom prescribe more than from one to two drachms of ether—a quantity quite insufficient to develop any narcotic effects. I have known seven drachms of it taken; but it produced, at the pit of the stomach, a most uneasy sensation of heat and pain, which only the callous stomach of a dram-drinker could stand. As a dram, ether might answer very well; and it is for a similar purpose that it is usually prescribed in medicine—as a carminative, and not as a narcotic.

Ether, on the contrary, from its high volatility, is admirably adapted to be administered by inhalation. It boils at 96° Fahr. The heat of the hand is sufficient to make it fly off in vapour. Alcohol, again, is far less adapted to this mode of administration. Even when rectified to the uttermost, it only boils at a temperature of 173° Fahr.; and if less strong, the temperature must be higher. Still, however, the inhalation of the vapour of alcohol will produce narcotism, although with less rapidity than ether.

It is, I believe, to this difference of physical qualities, in the two substances, and in the mode of administering them which is the consequence of it, that the differences in the physiological effects of alcohol and ether are mainly to be ascribed; and not to any actual difference in their mode of action upon the human body.

The most remarkable peculiarities in the action of ether administered by inhalation are, 1st, the suddenness with which it induces complete narcotism; 2d, the transiency of the narcotic state; and, 3d, the very small quantity of ether necessary to produce the effect. I shall endeavour to show, that these peculiarities depend altogether on the mode of administering the ether, by inhalation; and would not be observed, if it were administered in any other way; and in doing this, I shall assume as principles, that ether only acts as a narcotic after being absorbed, and that the energy of its action is proportionate to the degree in which the blood applied to the tissues of the heart and brain is impregnated with it.

The suddenness of the effect produced depends, in the first place, on the volatility of the ether; and on its

being thus brought, at once, into contact with a very extensive and highly absorbent surface—the mucous membrane of the lungs.

Another circumstance, which favours much the speedy development of the narcotism, is, that the blood, fully charged with the absorbed ether, is at once poured, undiluted and in a continuous stream, on the heart and brain. The ether is no sooner absorbed, than the blood, charged with it, passes on to the cavities of the left side of the heart and immediately thereafter circulates through the coronary vessels and the carotid and vertebral arteries, and thus pervades the tissues of both sides of the heart, and every part of the brain. It is far otherwise with respect to substances applied to the surface of the stomach, and absorbed by the stomachic veins; for the blood in these veins is necessarily diluted, by intermingling with many currents larger than their own, before reaching the heart and brain. Suppose, to take an extreme illustration, that the blood were capable of absorbing as much ether as water can combine with, or one-tenth of its own weight; if, then, we suppose that the blood in the lungs were impregnated to this extent, it would be applied in that state to the heart and brain, whereas, if the blood in the stomachic veins were impregnated with the same quantity of ether, before reaching the liver it would have mingled with more than its own mass of pure blood from the splenic and mesenteric veins; the tenth would thus become a twentieth: and, on the blood leaving the liver, and joining the larger current of inferior cava, the twentieth would become a fiftieth, or sixtieth. A further dilution would take place at the confluence with the superior cava, so that the blood, on reaching the heart and brain, instead of containing one-tenth part of absorbed ether, could not contain so much as one-hundredth. Whenever, therefore, the same quantity of ether, or of any other absorbable substance, is taken up from the lungs and from the stomach, it must, in the former case, be applied to the tissues of the heart and brain in a state of concentration at least ten times greater than in the latter; and will, therefore, act on these organs with more suddenness and energy.

I would explain, also, nearly in the

same way, the evanescence of the effects produced, which is the most extraordinary part of the whole phenomenon, and the most difficult to explain. During the inhalation, which is continued from five to seven minutes, blood, highly charged with ether, is applied to the heart and brain; while the blood circulating in the lower parts of the body contains a much smaller proportion of it. Now, on stopping the inhalation, the blood circulates in the heart and brain, speedily passes off by the veins, and is succeeded by the comparatively pure blood coming from the lower regions of the body; and so the narcotic symptoms disappear.

It is far otherwise when alcohol is absorbed from the stomach, for the whole mass of blood must be impregnated with it, before a highly charged blood can be applied to the heart and brain and then, the effect continues for many hours till the alcohol has been thrown out of the system by the skin and lungs.

With respect to the ether—it must not be supposed, that, on the subsidence of the narcotism, the ether disappears from the body; for it is merely weakened in its effects, by being diffused equably over the whole mass of blood; but, that it remains within the body is obvious from the smell of the breath for many hours afterwards, and from its frequently causing copious perspiration.

The small quantity of ether necessary to produce narcotism when inhaled depends on the principle above stated, that the ether is applied directly and continuously to the tissues of the heart and brain. It is difficult to determine the actual dose of the ether, or the quantity of it absorbed into the blood. There is even difficulty in determining the quantity inhaled into the lungs. At the temperature of 96° Fahr. the specific gravity of the vapour of ether is 2.583; and a cubic inch of it weighs .790398 of a grain. If, therefore, the inhaling apparatus were kept at a temperature of 96°, and we assume 15 cubic inches of air saturated with ethereal vapour to enter the lungs at each inspiration, we shall then have .855 grains as the quantity of vapour inhaled at each inspiration; and if we farther suppose 18 respirations to be made in the minute, and the inhalation to be continued for five minutes, we

shall have 1017 grains=2 oz. and 57 grains, for the total quantity of ether inhaled. But this quantity is greater than the total quantity of ether expended, including waste; so that the estimate is obviously too high; and this depends on the temperature at which the inhalation is made, instead of being 96°, being no higher than between 60° and 70°. We have no direct experiments to determine the specific gravity of ethereal vapour at these temperatures; but we know, from the experiments of Dalton, that at the temperature of 64° the vapour of ether supports a column of mercury fifteen inches in height, or half an atmosphere; while at 96° it supports a whole atmosphere, or column of mercury thirty inches high. If, therefore, we take the specific gravity of the vapour at these two temperatures in proportion to the elasticity, as measured by the columns of mercury—which is the law supposed to regulate the weight of vapours at different temperatures when in contact with the liquids by which they are generated—we shall have, for the specific gravity of ethereal vapour, at 64°, 1.2195; and, assuming the same data as before, we shall have 5.927 grains inhaled at each respiration, and 1 oz. + 28 grains inhaled in five minutes. Now, as from one-half to two-thirds of the ether inhaled is again thrown out with the expired air, the quantity absorbed into the blood cannot exceed from 3 to 4 drachms.

It would thus appear, that, during the inhalation of ether, as usually practised, not more than *half an ounce* of the medicine is introduced into the body; and yet that quantity has been found to induce such a state of narcotism that the most severe operations in surgery occasion no feeling of pain. Now it has been stated above that a quantity of ether, nearly twice as great, has been administered by introducing it into the stomach. This dose, although largely diluted with water, excited a violent sense of heat and pain in the region of the stomach, and at length passed off by a profuse perspiration, without having occasioned any narcotic symptom, except a slight giddiness. It is obvious, therefore, that the recent important discovery of the influence of ether over the sensibility of the nerves depends entirely on the mode in which the ether is adminis-

tered, and not on any hitherto unknown power possessed by it as a physiological agent.

The preceding observations with respect to ether are confirmed by the fact familiarly known with respect to alcohol, that persons employed in bottling spirits, if not habituated, are readily intoxicated, and that this kind of intoxication is almost immediately relieved by going into the open air.

ON
VISION, AND ITS ASSOCIATIONS
WITH THE MUSCULAR SENSE.

By THOMAS HAWORTH, M.D.
Bolton.

[Concluded from page 676.]

THE capability of acquiring a notion of position and linear extension implies the power of acquiring a notion of form, for form depends upon the extent of linear extension in all directions. The eye, in viewing an object, must have the feeling of directing its axis upon every point of its surface, because every point emits rays which strike upon a part of the retina associated with such an action of muscles as would bring the axis of the eye in coincidence with these rays. Suppose the object to be a ring, the eye has the muscular feeling of tracing its outlines; suppose it to be a shilling, it does more than that, it has the feeling of directing its axis upon every part of the surface, because every point emits rays with which the axis of the eye either becomes coincident, or, which is the same thing, has the feeling of so doing. I do not say that the eye methodically portrays the outlines of a body and then fills up the enclosed space within, as a painter might do; the feeling of action is so rapid that we appear to have a simultaneous view of every part. It will be understood that it is not essential that the object be viewed directly by the eye; its form is seen if viewed laterally, or in any other direction; for whatever part of the retina receives the rays proceeding from it, that part is associated with such muscles as would direct the eye upon every point of its surface.

Is it credible, then, that from an eminence, the muscles of the eye, &c.

one single glance, can accurately delineate every object within the range of vision—cities, villages, hamlets, and landscapes, with all varieties of wood, hill, dale, and stream? The wonder diminishes if we take into consideration that the muscles of the eye do not go through the actual process of directing its axis upon every point of the surface of the myriads of objects under view; that, indeed, would be a laborious and enduring work. The feeling of muscular action not requiring the actual contraction of muscles, which necessarily occupies sensible portions of time, and unimpeded by mechanical causes, may proceed with almost unlimited rapidity; indeed, and without metaphor, with the speed of thought.

The eye *feels*, as it were, the form of bodies, by its moving, or feeling to move, in such a manner that if there was a rigid prolongation from its axis reaching an object under examination, it would accurately define its outlines, and touch every visible point; but as the eye possesses no such appendage, the rays of light answer the same purpose. When we are in the act of examining an object, the rays of light proceeding from each point to the retina are momentary antennæ. In fact, the eye ascertains form precisely in the same manner as does the combination of the sense of touch with the movements of the hand and arm. The head of the humerus may be compared to the eye in respect to its capabilities of motion, they may both be said to be ball-and-socket joints; and while the one, when examining a body, sketches it through the means of the rays of light, the other performs the same thing through the means of the arm and hand; and as, in the latter case, the sensation of touch directs the motion of the arm, so, in the former, the sensation of light directs the motion of the eye. In neither case is it the sensation of light or touch which informs us of the shape of the body, but the sense of muscular action, which these sensations guide. It is here supposed, to make the analogy more complete, that when making the manual examination the arm is extended, and that the centre of motion is at the shoulder-joint.

It is easily explained, on the theory now proposed, why we see an object *single*, there being two images of it,

one on each retina. If the muscles of one eye refer an object to exactly the same position as do the muscles of the other, there can be no other than single vision. The two images become amalgamated into one. But double vision occurs sometimes. If our eyes are adjusted for a certain distance, objects either nearer or farther off than that distance appear double. I do not at present feel able to give a satisfactory explanation of this.

Double vision also occurs when we force the eye out of its place by pressure. For instance, if we push the eye upwards by pressing the lower part of the ball, objects seen by the displaced eye seem to approach and descend. The rays are made to strike upon a different part of the retina farther from the centre, and therefore associated with such an action of muscles as would cause the eye to point nearer ourselves, and lower down. We do not make the correction necessary in consequence of the increased elevation of the eye, because we are insensible of it, it is forced; the elevating muscles taking no part in it, we derive no information from a sense of their action: perhaps the movement resembles no natural one. When the elevation of the eye is effected by the appropriate muscles, this elevation is taken into account, and forms part of the association; there is no duplication, nor movement of objects. It is analogous to what takes place when gliding in a canal boat; we are insensible of our own movement, while objects seen through the window seem moving instead in a contrary direction: on the other hand, when walking, we are sensible of our movement by means of the muscular sense, and objects appear stationary: so it is with the eye, if moved by foreign means, so that we are not sensible to the movement, objects appear to move in a contrary direction; but when moved voluntarily, objects appear stationary.

Distortion of the eye, as it exists in squinting, is of a different character from that produced by pressing it with the finger; the former being effected by the action of muscles of which we are sensible, is not accompanied by double vision. Though widely different parts of the retina of each eye are affected by the rays of light, yet they are each possessed of muscular associ-

ations, whose action, or feeling of action, points to the exact position of an object under examination.

If it be true that our notion of position, extension, and form, is identical with feeling of muscular action, it will be obvious that if by any means the association between the retina and muscles of the eye be destroyed, or if the feeling of muscular action be paralysed, we shall cease to discern outward objects. The retina itself may remain uninjured, and we may be sensible of light, but it will be like chaos—without form and void, an amorphous fusion of all the rays proceeding from external bodies to the retina.

During fainting, when voluntary muscles lose their power, becoming as it were paralysed, those of the eye cease to convey notions of the state of visible objects; yet the retina remains sensible to light, as is evident from a vague mistiness which appears to surround us, and which I would consider an approach to the sensation of light in the abstract; consequently, that is, unconnected with the muscular sense. In fainting, external objects seem actually to dissolve in an undefined mass of light, as the variously shaped articles thrown into the melting-pot disappear amidst the mass of molten metal.

Intoxication, when carried to excess, is attended with almost total blindness, without darkness; here, also, we may suppose the functions of the muscles of the eye to be suspended while that of the retina is carried on, though undoubtedly impaired.

According to Magendie, division of the fifth pair of nerves causes apparent blindness, and there are many cases recorded in which injury of its branches was connected with amaurosis. May we suppose that this nerve administers to the feeling of action of the muscles of the eye, that any injury done to it may disorder or destroy this feeling? It is stated by anatomists that a branch of the fifth pair unites with the motor nerve of the eye.

It has more than once occurred to myself to suffer half vision from accidentally inhaling, through the nostrils, the vapour of prussic acid. The effect was, I apprehend, partial paralysis of the ocular muscles, for parts of objects were completely invisible, yet there

was no appearance of darkness. It was difficult to make any thing out of the light intervening between the eye and invisible objects; it had no appearance of extension, nor of being removed to any distance from the eye; it seemed actually to touch the eye; the sensation of light was as vague and indefinite as the sense of smell or taste.

Let the critic forbear the facile pun, and withstand the temptation of calling this paper *visionary*. There is no point strained in it. We have inferred from the movements of the spectrum that the position of an object under examination is known from the muscular feeling of directing our eyes upon it. We have attempted to show that a sensation on a certain point of the retina, accompanied by a certain existing action of muscles, has been, times out of number, followed by a certain action of muscles, and that in consequence, in obedience to a law, an association has been established between the sensation and muscular action, or, what is the same thing, the *feeling* of muscular action; from this association we have inferred that a sensation on the retina may be followed by the *feeling* of muscular action without the action actually taking place, and that hence all objects, wherever situated, whose rays enter the eye, are referred to their proper position without any movement of the eye: owing to this knowledge of position, we acquire a knowledge of shape, we see single with two eyes, and images inverted on the retina appear erect.

There is, no doubt, a difficulty in comprehending a feeling of action of muscles, while at the same time the muscles are at rest. It will be sufficient for this theory if we conceive it possible to have a consciousness that by making certain movements an object may be brought more in sight, and that this consciousness may be attended by a feeling of still effort in those muscles which would effect those movements. Now it is this feeling which indicates the position of the object. It is unnecessary to say that the muscles thus affected will depend upon the associations of the affected part of the retina. I think there is good reason for believing that our notions of space, position, &c., are identical with the feeling of muscular action, that they are one and the same

hing, and that the muscular system is as much the seat of these notions as the retina is the seat of the sensation of light.

The association between the sensation of light on the retina and action of muscles may either be acquired by habit, as many other associations are established, or it may depend upon some anatomical arrangement, as in the excito-motory system, but with the difference that it is attended with sensation. The latter seems to be the case with the lower animals, some of which seem to have correct vision from birth. The case is different with infants, whose vision at the time of birth seems to be confined to the mere perception of light; their powers of seeing objects seem to improve very gradually through practice: even when they are several months old they have some difficulty in catching the sight of an object within the range of vision, the associations between the different parts of the retina and the muscles having been imperfectly established.

We are apt to overrate the importance of the sense of touch as an aid to vision, but, in my opinion, the latter sense, combined with muscular associations, is sufficient to give a knowledge of position and form without the help of touch. An infant whom I had ample opportunities of observing, acquired tolerably perfect powers of seeing *before* he commenced exercising the sense of touch; he occupied himself almost entirely with looking at objects till he was four months and a half old; at this age he could direct his eyes and recognize individuals with great ease, and yet he was all but totally unable to use his arms and hands with a view of touching or handling any thing. At the age above mentioned he first began to look at his hands as he would at any other object, and so little did he appear acquainted with them, that I believe he hardly knew they formed part of himself; he speedily, however, found out their use, and now occupies himself as much in touching and handling as in looking. From these facts we may infer that sight is not so dependent upon touch as is generally imagined.

Sir C. Bell might well compare the eye to a theodolite,—it may be correctly called a self-acting one, for it contains within itself the power of

self-adjustment, and by an active but motionless machinery, it is able, in a moment, to direct its telescope (optic axis) to every point of a field of view whose only bound is the distant horizon.

IMPETIGO CAPITIS, OR CRUSTA LACTEA.

By JOHN GRANTHAM, Esq.
Fellow of the Royal College of Surgeons of England.

THE disease to which the following remarks are applied, will be understood as having reference to the impetigo of infants, or crusta lactea. After perusing the works of various authors who have written on this disease, the reader is led to the following conclusion—namely, it is better to do but little, and perhaps the less the better apart from cleanliness, the eruption being considered as symptomatic from dentition, or occasionally subordinate to some visceral disorder. In the last edition of Mr. Erasmus Wilson's comprehensive work on the diseases of the skin is found a very able digest of all the different modes of treatment that have been adopted in this disease. My object in the present paper will be to show the connexion existing between impetigo capitis and an encephalated condition of the spinal cord, in doing which I must guard myself against an injustice which is too often done to authors in supposing they generalise from a mere isolated case. Although an author may not report a number of cases, he is not the less entitled to that test, the only test which ought to be applied to his principles,—that is, a practical application of his statements. I claim a patient investigation into the present facts, which I believe if rightly understood may arrest the fatal consequences of some of these cases. My observation has been directed to the remarkable difficulty of supporting the osseous and muscular structures of the body in this disease, having seen great waste of these structures in children when so affected, and whose cases have often terminated in epilepsy from atrophy of the spinal marrow, and deficient ossification of the bones of the cranium, and which never could be attributed solely to the eruptive disease. The first symptom which may be noticed in the child is its passing an increased quantity of

urine, pale in colour and of low specific gravity, which sooner or later will contain an undue proportion of the phosphates; during this early stage the child is frequently sick after taking its food, and to the parent there appears no visible indication of disease so as to excite attention, the child thriving, or apparently so doing, until some of the eruption makes its appearance: then, and only then, all attention is directed to the eruptive disease, which is the source of much mental anxiety to the mother: the child is at that period generally purged: debility supervenes, which is first noticed by weakness of the spinal column, showing a posterior curve of the spine between the ninth dorsal and third upper lumbar vertebræ. Should the primary cause not be arrested the patient will show further proofs of weakness by a falling of the head on the shoulders, and when the child is in the recumbent posture the head falls backwards, and in this state it will be very evident to the practitioner that a general anæmiated condition of the system is present, and his mind is then directed to the spinal system of nerves, which I term the seat of the second cause.

Treatment.—The first consideration must be in regard to the health of the nurse, so that a healthy supply of milk be given to the child containing as little saccharine matter as possible; the diet being increased, and mixed with animal solutions, such as beef-tea, &c. according to the age and strength of the child. The eruption being a suppurative inflammation of the derma requires attention to temperature, especially avoiding chill or cold, and the frequent application of warm water to the skin. The administration of muriatic acid in the form of common salt into the system, with small doses of vinum ferri, should be persisted in so long as the urine denotes a low specific gravity. When required an occasional dose of castor oil should only be used as an aperient; generally speaking all purgatives increase the irritation on the skin; it is better to keep the heart's action subdued, when excited from the effects of the fever attendant on dentition, by having recourse to the right use of warm baths, and a non-nitrogenized diet; and should the frontal bones of the cranium advance with a corresponding yielding of the parietal

bones after the tenth month, an elastic belt to support the skull is needed, and which will be found a preventive of epilepsy. I cannot too strongly urge the necessity for removing such patients from damp and thickly crowded places to high and dry localities.

Crayford, Kent, April 14th, 1847.

CASE OF RECOVERY FROM A SEVERE WOUND OF THE ABDOMEN. BY DR. LONG, OF ARTHUR'S TOWN.

J. H., returning from a drunken debauch on January 30th, 1846, which had been carried on throughout the day, quarrelled on the road homewards, near the hour of midnight, with his companion, who struck him with a knife on the left side of the umbilicus, and extended a ripping wound obliquely upwards to nearly the right side point of the ensiform cartilage. The man fell, became insensible, probably from hæmorrhage, which must have been very great, as his clothes were quite saturated with blood; but on rallying, he staggered on upwards of a hundred yards to a neighbouring cottage, with, as the inmates told me, "his bowels hanging out." I was then sent for, a distance of six miles; I mention this to show the time that must have intervened, and the consequent exposure of the contents of the abdomen at that inclement period of the year. On my arrival I found a protruding mass, equalling in size the head of an infant, composed of omentum and intestine, apparently the transverse arch of the colon and the lower arch of the stomach; the latter evidently forced down by the incessant efforts to vomit. The man was cold, and nearly pulseless; warmth was applied to the extremities, opium, and stimulants given, and, by patient long-continued manipulation, the protruded and now almost strangulated part was returned; the edges of the wound were brought together by several stitches of the interrupted suture, assisted by adhesive plaster and a suitable bandage. In a very few hours reaction set in with every indication of peritoneal inflammation, which was met by general and local bleeding and rigid abstinence; in fact, for the first forty eight hours, he had nothing but one pint of milk largely diluted with water, as sustenance; bleeding, general and local, was obliged to be resorted to again and again, with the internal use of calomel and opium; and notwithstanding that this poor fellow was lying in a miserable cabin, the chinks of whose door were pervious to every blast, and unprovided with medicated drinks or comforts of any kind, he is now well and working at his trade as a smith.—*Dublin Medical Press.*

MEDICAL GAZETTE.

FRIDAY, APRIL 23, 1847.

THE case of Miss Collyer is well calculated to direct the attention of the public to the great insecurity of life which necessarily attends the present loose and irregular system of dispensing medicines. It is perhaps unknown to the majority of non-professional persons, that for the business of what is vulgarly, but most improperly, called "*a chemist*," no kind of preliminary study is required by law; nor is the individual, who assumes the responsibility of dispensing medicines, compelled to show by a searching examination that he has that knowledge of pharmacy which is essential to the safe performance of this duty. Thus, at the trial of Mr. Cronin, the question was put by counsel to Mr. Corfield, the druggist who supplied the fatal medicine, — "Whether persons who follow the profession of a chemist (dispensing druggist?) undergo any examination before they do so;"—and he admitted what is known to all professional men, that "*they do not*." On a former occasion* we made some remarks on the supineness of our Government in allowing such a state of things to continue. As there is at the present time a kind of mania for the saving of life by the abolition of nuisances; and it has been ingeniously calculated that by the removal of cess-pools and the formation of sewers in towns, nearly 50,000 lives may be annually saved to the community, we shall venture to put in a word for the saving of those lives which are annually cut off by the dispensing of poisonous drugs through ignorance or mistake. We are at a loss to discover a single

reason why a man who takes upon himself to *dispense* a Latin prescription, which the Cronin case proves may contain not merely medicines known to the Pharmacopœia, but also deadly poisons known only to those who think they have improved upon the Pharmacopœia,—should not be compelled to undergo a course of study and examination, as well as he who *writes* the prescription. If the safety of the public require such a wise precaution to be taken with respect to the *prescriber*, it equally demands it in respect to the *dispenser*. No complex Reform Bill is required for such a purpose; and therefore there is not that pretence for delay which has hitherto obstructed the progress of the measures that affect the regulation of the medical profession. It is more than a hundred years since a measure to control the study and practice of pharmacy became the law of France; and it appears to us that a short act based on the principles of the improved French law, would suffice for the purpose. The lives that would be saved might, it is true, not be counted by thousands, as they are under the prospective sanitary legislation; but it obviously is the plain duty of a Government not to allow the wanton sacrifice of a single life, when an easy remedy presents itself. The Cronin case is assuredly a sufficient ground for immediate interference; for the public are distinctly told by the result,—that the prescriber who departs from the use of ordinary and recognised medicines in his prescription without defining the strength of those which he orders, is not responsible for the death of a patient;—and, further, that the dispenser who prepares the poisonous mixture, although perfectly ignorant of the properties of the drugs, is equally irresponsible for the fatal result! We draw this inference, because had it been

* Vol. xxxvii. p. 821.

considered that the druggist had committed any legal offence on this occasion, it is reasonable to suppose he would have been included in the indictment for manslaughter. Thus, then, we come to the unsatisfactory conclusion, that, as the English law at present stands, a life may be sacrificed without the responsibility resting upon any individual; while, had the law required from this druggist a proper knowledge of his business, a life would have been saved!

While we profess to be the most practical, we are at the same time the most inconsistent people in all questions which affect health and life. Quack medicines are sold on every side under government patronage, to the great damage of public health; Godfrey's cordial alone slays its hundreds yearly among the infant population;* the most fatal poisons are unrestrictedly retailed to the public by the lowest class of village shopkeepers, some of whom can neither read nor write:—medical practitioners are allowed to assume titles which do not belong to them, and persons calling themselves "chemists" are permitted to dispense powerful medicines, of the nature and properties of which they are profoundly ignorant. An earnest desire to remedy these glaring evils would soon lead to the discovery of a practical measure for their diminution or entire prevention; but, in spite of the good example set by a neighbouring government, no step has yet been taken for their removal. Let our readers contrast this disgraceful apathy with the lachrymose speeches of senators on the loss of life by unnecessary sickness, and on the yearly number of deaths from preventable causes in the shape of undrained houses and ill-ventilated streets! These sani-

tary evils have undoubtedly long called for a remedy. This has at length been proposed in the shape of a bill, the clauses of which are likely to occupy a whole session of Parliamentary discussion; but while we are thus making an effort to save life in one direction, we are deliberately encouraging its wanton destruction in another! The necessity for pharmaceutical legislation has long been apparent; the Cronin case has only proved that delay is no longer justifiable, and it does not appear to us that any reasonable plea can be suggested for its postponement. One of Mr. Cronin's witnesses at the trial, Mr. Spratt, proved that bitter almond water was in very large demand; and although he (Mr. Spratt) might give to such a prescription as that which caused death in *this* instance, what the learned judge termed "*a fair chance*"! it would be much more satisfactory if the lives of those who daily visit the shops of druggists did not depend upon any such chance or risk! We by no means object to the laudable attempts on the part of the government to prevent unnecessary deaths from unnecessary sickness, but what we desire to see is that there should be no *unnecessary poisonings*;—especially since it is now settled that no one can be blamed for the result, except the unfortunate person who swallows the poison! It is unfair to censure a druggist for ignorance, and it would be unjust to punish him for that ignorance, when the law neither requires him to study his profession nor to submit to any test of competency before he is allowed to practise it.

We cannot close our remarks on this case without laying before our readers one of a somewhat similar kind which occurred in France in 1842. On the 29th of March of that year, a Dr. Macé prescribed for a M. Lessechop a mixture containing *sixty-one grains* of Cyanide of Potassium, dissolved in two

* It was proved before the Children's Employment Commission that one druggist in the Factory districts consumed thirteen hundred weight of treacle in one year in the preparation of Godfrey's cordial!

ounces of orange-flower water, and half an ounce of syrup. The direction given was that three "spoonfuls" of this mixture were to be taken daily. The patient took one dose—as it would appear, not more than a table-spoonful, which caused his death. Immediately after taking the medicine, he was seized with most alarming symptoms, and died in three quarters of an hour. Dr. Macé was brought to trial before the Royal Court of Rennes on the 7th of December, 1842, on a charge of manslaughter by poisoning. He was condemned to three months imprisonment, a fine of fifty francs, and all the costs of the proceedings*.

According to the law of France, the *prescriber*, and not the dispenser, was held responsible for the fatal result; although a very fair plea might have been urged in his defence that the druggist was entirely ignorant of the properties of cyanide of potassium. Yet it appears to us that the ignorance of one who dispenses medicine, should never be allowed to serve as a shield for protecting from legal consequences a practitioner who has been guilty of gross ignorance, or culpable neglect, in writing a prescription. If, however, the ignorance or neglect of the prescriber are henceforth to be disregarded—whether the responsibility be thrown on the dispenser or not—it is the duty of the legislature to protect the lives of the people by subjecting the practice of pharmacy to proper restrictions.

WE elsewhere,† insert a letter from a correspondent on a subject which is of some interest to the profession: we allude to the appointment of Health Officers under the Health of Towns Bill. The suggestions which he offers deserve consideration; for the success

of the measure, in a medical point of view, will greatly depend on the mode in which the appointments to this important office are filled up. We have already* made some remarks on the new range of duties which under this Bill are likely to devolve upon members of the medical profession. The qualifications of candidates, the mode of appointment or election, and the salaries to be attached to the office, are questions which will require grave consideration. We do not apprehend that there will be any political influence exercised to keep out good men: the great difficulty will be to distinguish those who are really competent from those who are not. For some time past there has been a species of sanitary quackery in which some members of the profession have indulged. The metropolitan and provincial newspapers have of late frequently contained paragraphs on drains and ditch-water, fevers and fomites; and the opinions and researches of some (locally) "eminent medical men" have been quoted, with an extract from a lecture or pamphlet, &c. It is impossible to mistake the object of these advertisements; but we trust that when the time arrives, it will be found that this spurious popularity will have gained nothing for the advertisers. Unlike many Government offices, that of *Officer of Health* under the proposed Act will be no sinecure. Its duties, as laid down in Lord Lincoln's Bill, if well performed, will be sufficient to occupy the time and to call for the knowledge not of one but of six experienced medical practitioners! Another fact of importance is, that incompetency for the performance of the duties of the office, would soon become so glaring as to render the removal or resignation of the individual a matter of public necessity.

So soon as the new bill is printed, we

* Annales d'Hygiène et de Médecine Légale, tome xxix. p. 412.

† Page 738.

* Vol. xxxviii. pp. 976 and 1015.

shall take care to lay before our readers those clauses which will more particularly affect the profession, with such remarks as may appear necessary.

For a long time there has been a dispute whether the fee for the medical reference in a case of life-assurance should come from the office or from the pocket of the individual who proposed to insure his life. One fact is clear:—the medical referee is entitled to a fee, because he could not give an opinion without giving the benefit of his medical knowledge and experience to others, one or both of whom will most certainly profit by that knowledge and experience. Besides, by giving this opinion he places himself in the responsible position of being called on hereafter to justify or defend it in a Court of Law, in the event of payment of the policy being refused. Unless, therefore, it be contended that the medical profession is in this respect an exception to all others; and that a medical man, for some mysterious and undefined reason, is bound to give *gratuitously* a professional opinion involving serious responsibility, it must be admitted that this is decidedly a case in which a fee should be paid.

The matter has been hitherto allowed, to turn upon the question whether the Office *or* the insured should pay this fee; and most ingenious and apparently satisfactory arguments have been adduced to show that neither ought to pay it. But the principle of payment being once admitted, we apprehend that it is an unnecessary piece of mystification to bring the medical referee into this part of the case. This question should be settled between the Office and the insured.

Some offices have, however, taken up the matter, and have announced their intention of paying a fee to the medical referee. We have now before

us a circular from a comparatively new Company, which professes to pay medical referees. There is no reason why every Insurance Company should not adopt the same plan. A man is not to lose a proper remuneration for his professional judgment, because one of two persons cannot exactly settle which is to be more particularly benefited by such judgment! This is nothing less than a fraud, which both parties if honestly inclined might easily prevent by a very slight concession. As to the Insurance Company, the fee, if always paid by it, would form only an infinitesimal fractional addition to the year's premium, even if the Company considered, *foro conscientie*, that the insured was bound to pay it.

We are sorry to find, however, that this question has, in the circular before us, been mixed up with a proposition of a widely different character. We here give the proposition in the words of the circular:—

"This Society has advanced a step further in recognition of the rights of the medical profession to remuneration for the performance of services which are decidedly conducive to the prosperity of the Society. It has placed the medical practitioner on an equal footing with the solicitor in that respect; and it allows him the same liberal commission usually given to other professional men for the introduction of a life for assurance on the completion of the assurance.

"Few men have more frequent opportunities than medical men of appreciating the necessity and benefits of life-assurance, and of extending widely its sphere of usefulness, by recommending it in the numberless instances which come under their notice, where its timely adoption may be the only means of securing future provision to families."

This is simply offering a pecuniary bribe under the pretence "of a remuneration for the performance of services" which we admit "are decidedly conducive to the prosperity of the

Society," inasmuch as, if carried out, they would bring customers, whether life-insurance with this office were otherwise desirable or not. The real question for consideration is, whether such a mode of doing *business* by a liberal commission is "conducive" to the honour and respectability of the medical profession or not. We think there can only be one answer to this question, namely, that it would be contrary to professional honour to receive "a liberal commission" for a service which should be rendered rather for the benefit of the insured, than for the benefit of the office and the pocket of the medical attendant. The encouragement of such a practice would be in the highest degree discreditable. We are under no apprehension that this hint for privately adding to the amount of the fee will be taken; for we believe that a better principle prevails among the members of the medical profession than the Society which has issued this circular supposes. At any rate, if the "liberal commission" system should meet with any support, we think that they who recommend the Office are bound to state fairly to their patients that they are liberally paid for the recommendation.

We this week commence the publication of a course of lectures on "Electricity and its modifications in their physiological and therapeutical relations," lately delivered before the College of Physicians by Dr. Golding Bird. The lectures, five in number, will be published on alternate weeks until the course is completed. We have no doubt that the value of this course will be fully appreciated,—as a summary of the applications of Electricity to Medicine has been long wanted.

We have further to announce that the first lecture of Mr. Bransby

Cooper's Course on Surgery, will be published in the number of this journal for April 30th, while the first lecture of Dr. West's Course on the Diseases of Infancy and Childhood, will appear on the 7th of May. Instead of publishing a lecture of each of these courses weekly, it is our intention to publish one of each course on alternate weeks. This arrangement will enable us to give occasionally clinical and other lectures by gentlemen who have long been contributors to this journal: and it will also leave the usual space for the insertion of original communications.

PERSPIRATION IN FEBRILE DISEASES.

THE following statements by Dr. J. Tunstall, although of a very theoretical character, appear to deserve attention.

Dr. Tunstall considers that the peculiar odour emitted in cases of fever is given out by the perspiration, and a long experience in the treatment of febrile diseases has led him to conclude that the period of infection in fevers and febrile diseases is that in which the perspiration is offensive in its odour.

The exanthemata plainly prove the part performed by the skin in the relief of fevers; we use a portion of the secreted matter to convey their infection; while, in continued fever, Dr. Tunstall argues, this infection is propagated by the diseased perspiration, sensible by contact, insensible by inhalation.

In relation to phthisis pulmonalis, he has seen many cases where relatives, previously healthy, and by no means predisposed, had become diseased in consequence of their sleeping constantly with those affected by it, more particularly instances of husbands and wives, sisters, &c. The night-sweats in this disease have always an offensive odour, and are a diseased secretion; and the disease, Dr. Tunstall asserts, is infectious under this condition,—namely, by contact, and not by inhalation, for nurses and others rarely receive it, and it is from this circumstance that it has been considered neither infectious nor contagious.

In rheumatism, (a specific disease of a febrile character, attended with offensive perspiration,) he has seen relatives in close attendance attacked with febrile symptoms, complete in every respect excepting the specific characters of rheumatism, while *Aired* nurses altogether escaped.—*Provincial Medical and Surgical Journal*.

Reviews.

Outlines of Structural and Physiological Botany. By ARTHUR HENFREY, F.L.S. Lecturer on Botany at St. George's and Middlesex Hospitals, &c. With numerous Illustrations. 8vo. pp. 245. London: Van Voorst. 1847.

THIS little volume appears very opportunely for those students who are about to commence their botanical studies in attending the summercourses of lectures. The work strictly corresponds to its title. The author's object, as he informs us in his preface, has been to give a concise view of the actual state of knowledge at the present time, to the exclusion of all hypothesis hazarded without sufficient grounds, or negatived by experience. These, as many of our readers well know, are just as numerous in botany as in chemistry; and it is much to the credit of any modern writer on either subject who will afford us a glimpse of what is really known, and keep the questionable hypotheses distinct from the facts. To the botanical student, we have no doubt that this little manual will prove highly useful. It will not carry him deeply into the science, but by its perusal he may acquire a good acquaintance with the structure of plants, and become familiarized with those simple facts which will enable him to undertake without difficulty the study of more elaborate treatises. To him who is but little acquainted with modern botany, it will serve, by its synthetic character, to give a fair knowledge of what has been ascertained respecting the development and morphology of vegetable tissues.

After a very brief notice of the chemical constituents of vegetables in which proteine (the existence of which is now the great bone of contention between Mulder and Liebig) is made to take a conspicuous part, the author passes to an account of elementary structure, including the development of cells, and explains the views of many eminent German writers on vegetable histology. The morphological characters of the stem, root, and leaf, are successively described, and the latter half of the work is occupied with an account of the reproductive system of

plants. The concluding chapter on General Physiology is too short, considering the interest attached to this part of the science. There are eighteen plates, containing a very large number of illustrations drawn by the author himself. They reflect great credit upon his industry and skill as a draughtsman. If they occasionally want the finished touch of the professional artist, they will be more valuable to the student from their scientific accuracy.

We shall select as a specimen of the author's mode of dealing with his subject a paragraph from the chapter on General Physiology on the *Flowering of Plants*.

"Flowering, in a healthy condition of plants, takes place at a tolerably definite epoch in each species, and this epoch may be rendered earlier or later in the life of the plant by artificial or accidental natural conditions, such as peculiarities of seasons, &c. The flowering period, however, appears to be retarded most by a too active condition of the vegetative organs; for when plants are placed in a soil more abounding in nutriment than is natural to their physiological peculiarities, they frequently go on producing leaves and branches without the least tendency to develop flowers; but by cutting the shoots, or otherwise checking the activity of the developing functions, the plants are caused to flower. On the other hand, plants, especially annuals, when they have acquired just sufficient development to enable them to sustain an independent existence, will very frequently survive under very adverse conditions of soil, moisture, &c., and remain dwarfed, with few leaves, but still produce flowers. The flowering and fructification, therefore, appear to require an accumulation of nutrient matter; and this view is now borne out by what we see occurring in our cultivated plants. After a bad season in which little fruit is produced, the next year generally presents an abundant crop, and *vice versâ*. Again, by removing a ring of bark from a branch in unproductive fruit-trees, the downward progress of the assimilated nutriment is arrested, and, by its accumulation, causes the branch to bear an abundance of fruit. The pruning of fruit-trees is conducted on a similar principle, the buds being chosen for preservation which are seated upon the wood of the previous year instead of those on the young shoot. The seedling also, which, when left to itself, does not flower for several years, is, by grafting it upon an older stock having a much more considerable power of affording nourishment, rendered at once fertile. These facts render it evi-

dant that the processes of reproduction tend to *exhaust* the parent plant, and annuals possessing little means to enable them to endure this exhaustion, it kills them; biennials, in the flowering period, exhaust the accumulated store of two years, and then die. Perennial plants do not flower so early, and they are thus in a condition to withstand the exhaustive process with impunity. A proof of the truth of the above views is afforded by the process of rendering annuals biennial, or even perennial, by removing all flower-buds as soon as they are developed; the plant then produces wood, and acquires a shrubby character. Converse cases are given by the examination of the roots of the beet, turnip, &c. before and after flowering; in the latter stage they will be found divested of all the saccharine and farinaceous matter with which they were previously densely filled; all plants, indeed, the products of which are used for economic purposes, are in the most favourable condition just before flowering. The sugar-cane is gathered at this epoch, and all the vegetable juices possessing medicinal properties, such as that of *hyoscyamus*, *conium*, &c. afford the most powerful effects when obtained at this period. Many other examples of this exhaustion by flowering, and of the lengthening of the duration of life by retarding it, might be given; some of the most striking of the former are presented by the agave, or American aloe, as it is called, which lives many years without flowering (formerly it was supposed for a hundred years), but after the production and completion of the inflorescence, which is of enormous size, and developed with amazing rapidity, the plant perishes; the talipot palm, which, after a life extending over many years, during which it attains a great height, and bears a crown of leaves between twenty and thirty feet in diameter, flowers for the first time, produces a vast quantity of seeds, and dies," p. 222.

The other parts of the subject are treated with equal conciseness and clearness. The author has evidently spared no labour to make this little volume as complete as his space would permit. It bears about it that stamp of industry which deserves encouragement from the profession.

Medical Statistics; their Force and Fallacies: a Lecture delivered in the Park Street School of Medicine, Dublin. By JAMES F. DUNCAN, A.M. M.B. &c. Pamphlet. pp. 42. Dublin: M'Glashan. 1847.

A CLEVER politician remarked that there was nothing so fallacious as

figures, except facts. In medicine the fallacies are pretty nearly equally applicable to figures and facts. The liability to a disease, and the best method of getting rid of it, are, according to some stout advocates of statistics, entirely settled by decimal fractions. Given the locality, the age, the profession, weight, stature, and colour of the hair—the period at which the individual ought to die, and the nature of the disease which ought to kill him, are at once settled. There are, it is true, some obstinate subjects who will persist in setting these rules at defiance; but it appears never to be suspected that the facts and figures from which the inference is drawn, may have contained some undiscovered errors.

To write seriously: medical statistics have been of late in some cases most improperly and incautiously applied to the determination of the duration of life—the influence of climate on health, the results of the medical treatment of disease, and other like conditions. Unless more care be observed, although highly useful, their fair application to the determination of medical problems will be brought into deserved contempt. The sensibly written pamphlet before us contains within a small compass many useful suggestions on this subject: it may be read with profit by all professional men. Introductory addresses are generally ephemeral productions, abounding in high-flown language, and leaving behind them but little for reflection. Dr. Duncan has departed from the common rule; he has selected a subject at once interesting and instructive, and he has treated it in that cosmopolitan spirit which will render it as attractive to the English as to the Irish student.

Annuaire de Chimie; comprenant les Applications de cette Science à la Médecine et à la Pharmacie. Par E. MILLON et J. REISSET. 8vo. pp. 818. London: Baillière. 1847.

WE observe that the authors of this annual exert themselves by a careful selection of articles to make it all that a chemist can desire: namely, a repository of the discoveries made in Europe during the preceding year. To those who have not access to a large number of scientific periodicals, and who at the same time desire to be au niveau des

jour in all matters affecting chemical science, it is an indispensable manual: even to those who have the opportunity of watching weekly, monthly, or quarterly, the progress of discovery, it will be found most useful, by comprehending within a small compass a mass of information diffused over a large number of volumes. We shall take occasion to add to our pages at intervals some of those facts contained in this annual which have a direct relation to medicine. We may observe that upwards of four hundred pages are devoted to the description of discoveries in organic chemistry.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Tuesday, April 13, 1847.

J. M. ARNOTT, Esq. F.R.S. PRESIDENT.

Cases of Hospital Gangrene and of Diffused Inflammation of the Cellular Membrane, which occurred in St. Bartholomew's Hospital in December 1846 and January 1847. Reported, from Lawrence's wards, by HOMER COOTE, Esq.; from Stanley's wards, by LUTHER HOLDEN, Esq.

THE authors of this paper considered the particulars of the cases narrated as interesting, on account of their illustrating forms of disease now but little known in this metropolis.

In Case 1, the gangrene was consequent on a punctured wound of the palm of the hand, in a stout man of intemperate habits. This was followed by inflammation and pain up the arm; and on the fifth day an abscess formed on the back of the hand, which was opened. Relief was thus obtained; but the discoloured integument gave way, and left an unhealthy ulcer. When admitted three days afterwards, the palmar and dorsal aspect of the hand each presented a foul wound, the latter surrounded by mortified integuments. These continued to extend, and, a month after admission, the whole back of the hand was reduced to a black slough. Under the tonic and alterative treatment adopted, these sloughs subsequently separated, and the general health improved; and it was ultimately necessary to sacrifice the middle finger.

In Case 2, death followed diffused inflammation and sloughing of the cellular membrane in both fore-arms. The accident

which was the exciting cause of this mischief was a fall on both hands, producing compound fracture of one fore-arm, and severe contusion of the other. Various abscesses formed, the whole cellular membrane of the fractured limb sloughed, and the patient ultimately sank on the eleventh day. The deeper parts in the vicinity of the wounds were found, after death, to be reduced to a soft, pulpy, and disorganised mass. This patient had occupied the bed next to that of the preceding.

Cases 3 and 4 occurred in individuals who were the subjects of operation for strangulated hernia, and both healthy young men. In the former, death supervened from diffused inflammation and sloughing of the cellular membrane, accompanied by peritonitis and pleurisy: in the latter, gangrene made its appearance in the wound, which was nearly closed. The sloughs separated under the application of strong nitric acid, and the case terminated favourably. The employment of foul sponge, which had been used in Case 1, appeared to be the exciting cause of the mischief in this instance.

In Case 5, the gangrene followed a puncture in the hand, made to evacuate an abscess. The constitutional disturbance was very considerable in this case; but tonic treatment, and the application of strong nitric acid, ultimately effected a cure.

Case 6 closely resembled the preceding, and likewise terminated favourably.

In Cases 7 and 8, the gangrene followed punctures for the evacuation of abscesses on the hip and nates; in the former, the undiluted nitric acid was requisite to arrest the sloughing.

Case 9 was one of amputated thigh, in which, when the stump had nearly healed, and without any apparent cause, the small granulating surface remaining assumed a foul character, and an ash-coloured slough soon extended down to the bone. This separated after a week, and then the wound healed favourably.

In the last two cases, which resembled each other, gangrene attacked severally the ankle and foot, after a punctured wound was made in either for the evacuation of an abscess. Opium lotion, with nitric acid, (from twenty minims to one drachm to the pint,) was successfully employed in procuring a healthy action in the wounds.

The authors remark that hospital gangrene has not been witnessed for a great many years in St. Bartholomew's Hospital; and they seem disposed to attribute the occurrence of the malady in the above instances to the intensely hot summer, and the succeeding cold north-easterly winds with which the winter was ushered in. The disease was confined to three of the men's wards, at the north-eastern side of the quadrangle. There

was little or no preceding constitutional disturbance, the first morbid symptoms being the suppression of the healthy puriform discharge, and the appearance of a dusky-red inflammatory blush in the neighbourhood of the wound. Then the pulse became rapid and feeble, and, within thirty-six hours, the sore became converted into a buff-coloured slough, which rapidly extended to the deeper textures. The pain was, in many instances, compared to that of "burning by a red-hot coal." The only local remedy of any avail in arresting the progress of the disease was the undiluted nitric acid; opium, quinine, and a generous diet, were also prescribed. The authors further remark that they have ascertained that erysipelas prevailed extensively in other institutions during this same period of December 1846 and January 1847. Their view of the predisposing cause of the disease they consider to receive confirmation from the fact that a similar prevalence of severe weather preceded the malady when epidemic in University College in 1841.

These cases were illustrated by characteristic drawings.

THE PRESIDENT had seen hospital gangrene once only during the last seventeen years in the Middlesex Hospital. These cases all occurred in one ward. In one case, the slough, as large as a saucer, was arrested in its progress, and recovery took place, under the local application of nitric acid. In another instance, in which the slough was situated on the buttock, the internal use of opium, with the application of nitric acid locally, effected a cure. In the third instance, the sore was of a phagedenic character, and recovered under the same treatment.

DR. BIDD said, that the inference to be drawn from the cases mentioned by the President was, that the spread of the disease, and its origin, depended more on the influence of local causes than the authors of the paper appeared to think; for they attributed the disease to the effects of atmospheric influences affecting a large extent of surface. All, however, pointed to local causes, and its contagious character; and this might lead us to inquire whether we could prevent its spreading by isolating the patients, and preventing them using the sponges or other apparatus of the affected persons.

MR. ERICHSEN said that, in the early part of the year 1841, almost all the wounds in University College Hospital, whether the result of disease, of accident, or of operation, took on a sloughy appearance. The surface of the sore assumed a yellowish-grey pul-taceous aspect. There was little discharge, but a great tendency to hæmorrhage. The edges of the ulcer were sharp and defined, as if cut with a knife, and surrounded by a dusky-red areola. The ulcerative action extended farther in the skin by an eighth or a

quarter of an inch than in the subcutaneous cellular tissue, exposing the muscles and bones, but not invading those parts. There was not much constitutional disturbance,—not so much as might be expected,—either before the invasion of the disease or during its existence. There were no vesicles on the inflamed skin surrounding the ulcer. He (Mr. Erichsen) had at the time made inquiries in most of the West-end hospitals as to the existence of the same or any analogous disease, and had found that, although hospital gangrene did not exist in any of them, erysipelas and external phlebitis had been very prevalent. Influenza likewise prevailed at the time to a great extent. He thought that in taking into consideration the prevalence of erysipelas, phlebitis, and influenza, at the time of the occurrence of the hospital gangrene at University College Hospital, and the existence of the same diseases to an unusual extent at the time of the present outbreak of that disease at St. Bartholomew's, that it was impossible not to look upon these diseases as having a common atmospheric origin, the peculiar form of the disease manifested depending upon local conditions or peculiarity of constitution of the patient. At University College Hospital, the disease had certainly not spread by contagion. No contact was allowed between infected patients. The cases occurred in a scattered manner in different wards, and in different parts of the same ward, not in contiguous beds; and no sponges were used by which infectious matter could be conveyed. It did not, either, arise from overcrowding of the wards, which were large, airy, well-ventilated and contained comparatively few beds. He therefore attributed the occurrence of the disease to the influence of some peculiar atmospheric agency, manifesting itself in different ways in the form of erysipelas, phlebitis, influenza, or hospital gangrene, according to local or individual peculiarity. The treatment that had been found most successful was the application of strong nitric acid to the surface and edges of the sore, opium and bark internally, and a good diet. Under this plan he believed no fatal cases had occurred amongst from sixteen to twenty patients that had been attacked.

MR. HOLMES COOTE observed, in reply to the remarks of Dr. Bidd, that he was fully aware of the importance of inquiring whether local causes were concerned in the production of this very serious disease. He thought, however, that it would be difficult to refer the visitation to any circumstances connected with the construction or the internal arrangements of the buildings in which it occurred. On the other hand, it was impossible to deny how close was the resemblance between the general condition of the atmosphere during the past months, and that which, in 1841,

preceded the appearance of the disease in University College Hospital. With the cessation of the extreme cold the epidemic spontaneously ceased, and the aspect of the gangrenous sores assumed a more favourable character. Now it must be in the memory of all present, that after this apparent break in the year, there was an unexpected renewal of the bitter cold; and it is a singular fact, one deserving of attention, that with this unfavourable change there was a return of hospital gangrene in St. Bartholomew's Hospital. A woman, almost recovered from the effects of an operation performed by Mr. Skey for the relief of strangulated hernia, became suddenly feeble and uneasy; the wound, nearly healed, assumed the appearances already described in the paper just read, and in spite of the repeated application of strong nitric acid, there ensued a sloughing sore of enormous size. In other institutions, singular cases of sloughing of the cellular membrane have occurred; amongst others, in Bethlem Hospital, where there was found, by Mr. Lawrence, in one instance, a slough of cellular membrane formed around the oesophagus, as it entered the thorax, and in two or three others, an irregular slough, occupying the submucous tissue between the glottis and the corner of the os hyoides. Taking these and other facts into consideration, he (Mr. Coote) believed that the disease originated from some peculiar condition of the atmosphere.

Dr. Budd did not mean to imply that atmospheric causes had nothing to do with the spread of the disease; for if contagious, as he believed it was, it might be rendered epidemic by atmospheric causes, as we knew small-pox, measles, and scarlet fever occasionally were. With respect to the circumstances mentioned, with a view of establishing a connexion between hospital gangrene and erysipelas, he might observe, that in his opinion erysipelas was an infectious disease.

Dr. Ogier Ward, in confirmation of the local origin of hospital gangrene, phlegmonous erysipelas, &c., assigned by the last speaker (Dr. Budd) to the cases in question, begged to mention, that for a space of about two years, 1836-7, phlegmonous erysipelas prevailed to such an extent in the Birmingham Hospital, that the surgeons were very unwilling to perform operations that were not imperatively required; and that the disease continued, notwithstanding every attention was paid to cleanliness, ventilation, whitewashing, and fumigation: so that a question arose, whether it might not be desirable to close the hospital for a time, or select another site for it, though apparently the site was most eligible, being on a gravelly bank in the outskirts of the town, which is itself the most healthy large town in England, from the undulations of the surface, the

gravelly soil, and the width of the streets, &c. The only drawback to the healthiness of the site of the Birmingham Hospital was the stagnant canal, which lies within a few yards, though about thirty feet below the hospital.

Case of Enlargement of the Left Mamma.

By W. E. IMAGE, F.R.C.S., Surgeon to the Suffolk General Hospital. *To which is added, an Anatomical and Pathological Description of the Tumor.* By P. E. HAKE, M.D., Physician to the Suffolk General Hospital; and W. E. IMAGE, Esq. [Communicated by ROBERT LISTON, F.R.S.]

Sarah H—, aged 21, was admitted into the Suffolk Hospital in April, 1845, with an enormous enlargement of the left breast. Her general health had been good. Two years back she first perceived a red mark, about the size of a shilling, just above the nipple, and that the breast was enlarged; but it was free from pain or tenderness. The catamenia was regular. Two months afterwards she began to suffer pain, and had leeches applied, and iodine was also employed. She remembered to have struck the breast some time since with a pump-handle, but did not connect the accident with the disease. On admission, the breast was pendulous, with a blue, nævus-like spot just above the nipple, as large as a crown-piece, and several smaller ones in its vicinity; a leaden hue pervaded the whole surface of the breast. By gradual pressure it admitted of being reduced to half its bulk; but fulness in the head accompanied this experiment, and fainting succeeded it. The general health was good, and functions normal. Pressure with an air-cushion was employed for some time, but the tumor continued to grow, and the nævus-like discolouration to spread, the nipple becoming almost obliterated, and the areola obscured; the integument at one point was also much attenuated. After consulting with several surgeons in London, to whom the patient was shown, the author determined on the following operation, which was performed on Sept. 25th, 1845, the tumour being at that period twenty-three inches round its base, and projecting seven inches from the chest:—The patient was placed in a recumbent posture, and a vertical incision was made on either side of the enlarged mass, and two flaps dissected back as far as the healthy skin would permit, the bleeding vessels being secured as the operation proceeded. Two long and strong needles were then passed, at right angles to each other, through the base of the tumor, and, each being armed with a double ligature, was then returned; the ends of the ligatures, eight in number, were then tied, and the tumor was thus strango-

lated. Fourteen ounces of blood were lost, and a great shock was evidently sustained by the system; vomiting and venous oozing followed, and she sank after the lapse of twenty-two hours from the time of the operation.

The tumor was removed entire for examination. The appearance presented by a horizontal section was that of strongly marked congestion, caused by the operation, which artificial condition rendered the true nature of the disease more difficult to trace. The adipose tissue beneath the skin, and the neighbouring fibrous laminae, constituted (as the result of compression) a dense, tough membrane, perforated around the base of the swelling by dilated veins. The lactiferous ducts were traceable in front, towards the nipple, and vestiges only of the mammary gland could be discerned. The arteries and nerves of the mamma were unaltered; but some cells of considerable size presented themselves, filled with semi-fluid blood. The internal mammary vein, towards its junction with the subclavian, presented a sacculated appearance, the interior having a valve-like formation, the narrowed parts being thickened, and the sacculated portions formed of one hollow within another. The superficial veins were dilated uniformly into large sinuses. Under the microscope (with a low power) various sized cells were seen to constitute the bulk of the tumor, smaller ones being found contained within the greater; and in these cells all the veins were traceable. These cells therefore consisted of the veins between the capillaries and vein-trunks, in a state of distension. The rupture of these under the pressure of the ligatures produced the larger cells already noticed. The authors regard the disproportion between the arterial and venous circulation, produced by the narrowed condition of the internal mammary vein, as the evident cause of the fatal disease which ensued.

Illustrative drawings accompanied this paper.

Mr. Hilton had seen this case with Mr. Image: it had the appearance of a large *nævus*, and pressure reduced it to one-half of its size. There were several large arteries and veins in it. The patient was in good health, with the exception of the tumor,—a circumstance, he thought, to be surprised at.

Mr. Partridge said, that from the dissection it would appear to have been a venous *nævus* of unusual magnitude. The dissection was important, as the cells appeared to be a continuation of bunches of varicose veins; but the veins only were connected, and did not open into them, the cells only being seen by making a section of the convoluted vessels.

Mr. CÆSAR HAWKINS remarked, that

the paper was interesting, with reference both to the structure of blood-vessel tumors and their treatment. It was well known that there had been much discussion relative to their composition; and it was his opinion that, as in many other disputes, both sides were, to a certain extent, right. The common idea, no doubt, was that which had been expressed by Mr. Coote; in many cases they were composed sometimes of dilated and varicose arteries, sometimes of veins only, the minute blood-vessels being unaffected; in other cases, of diseased capillaries, only without dilatation of any large vessels; and in others, again, of capillaries and adjoining arteries or veins. But while the generality of blood-vessel tumors were thus formed, so that the appearance of cells is only produced by the section of convoluted vessels, in the same manner as Mr. Partridge has mentioned of the *vesiculæ seminales*, yet, in other cases, Mr. John Bell's description of their cellular formation is undoubtedly correct; and besides the dilated vessels filled with blood, there are also cells containing serum only, without any communication with vessels. Had he known that the paper was going to be read to-night he (Mr. Hawkins) could have placed on the table some preparations and drawings illustrating this fact, which he had shown Mr. Image, when he brought his patient to Mr. Hawkins's house for his advice. These serous cysts he had seen on several occasions: in one instance, in removing a subcutaneous *nævus*, a central cyst existed which contained about an ounce of serum; and he had also punctured and obliterated the cysts, where the excision of the *nævi* with which they were mixed was not advisable.* Such cysts seemed also, though of small size, to have existed in the case narrated in the paper. With regard to the treatment of very large vascular growths, the removal in the way practised by the author was certainly not according to the advice which he (Mr. Hawkins) had ventured to offer, when he saw the patient, and he was glad to hear an account of the reasons of the fatal result, which he had understood was the consequence of some operation, and he could not but have anticipated the very danger from hæmorrhage and mortification which had taken place from incision and ligature. Every one was aware how serious was the influence on the system from even a small gangrenous part, and therefore, when you came to the sudden strangulation of a large tumor, such as a breast twenty-three inches in circumference, the effects could not but be most formidable, especially in a delicate person, in addition to the loss of some thirty

* A clinical lecture by Mr. Hawkins, in the Medical Gazette, vol. xxvii. p. 1021, contains a description of such cases.

ounces of blood. The treatment Mr. Hawkins had ventured to suggest, was the introduction of several small setons of a single thread, from time to time, in different parts of the tumor, by which there would have been the usual advantages of coagulated blood and effusion of lymph, to block up the vessels, which, alone, often succeeded, in subcutaneous nævi, where removal was not desirable, and to which, in this case, could conveniently be added, general external pressure, with the moderate compression at the base, recommended by Lallemand, short of actual strangulation. Mr. Hawkins could not but think that if this had been done a different result might have ensued, and if it had failed, the more dangerous operations could afterwards have been had recourse to. Mr. Hawkins added, that the nævus with pulsating arteries, a form of aneurism by anastomosis, being comparatively rare, he might mention that he had an instance of it, in the lip, now under his care in the hospital; and in answer to a question by the President, he said that, the coronary artery being very large, and probably altered in structure, he rather inclined to think he should remove it by ligature, as he had seen troublesome hæmorrhage follow excision, from the artery having lost its contractility, and it was well known that tying the vessel going to the tumor almost always failed.

In a subsequent part of the evening, Mr. Hawkins mentioned a case of enormous venous tumor, in which the child of a medical man, about seven years old at the time he saw her, had an increase of all the veins corresponding to the external carotid artery of one side, producing a mass of convoluted vessels, the capillaries being unchanged, reaching from the ear to the sternum, and from the back of the neck and head to the front as large as the head itself; in the tongue it was very striking, since, if it were increased by excitement, the organ became too large to remain in the mouth, and required to be emptied by pressure to reduce it again. It was stationary when he had seen it, and no treatment seemed desirable.

Mr. COOTE said that he had had several opportunities of minutely examining vascular tumors, and he thought that, from what had fallen, the results might prove interesting to some present. The morbid changes in the vessels consisted in their dilatation for a variable extent; a small artery or vein suddenly became three, four, or five times its ordinary size, and then, after a course of an inch or an inch and a half, as suddenly resumed its natural calibre; if the disease were not interfered with, the vessels became eventually dilated into irregular cells; if the small arteries were thus affected (as seen usually in the lip), they formed a pulsating tumor; if the capillary vessels were affected,

they formed the ordinary non-pulsating nævi of infants; if the minute veins were diseased, they formed an irregular, livid blue, non-pulsating swelling, of which he, Mr. Coote, had seen lately two instances, one on the cheek, and another on the abdomen; the latter had been extirpated by Mr. Lawrence, and carefully examined, after a successful injection, when the continuity of the irregular cavities with the dilated veins was easily traced.

Mr. PARTRIDGE concurred generally in the statements of Mr. Hawkins. He did not see anything strikingly novel in the remarks of Mr. Coote; for it had long been known to the profession, that nævi were of three distinct kinds—the venous, the mixed, and the arterial. The mixed, if left alone, would go away; the other kinds must be treated according to their situation.

Mr. COOTE did not remember saying that his observations were entirely new to the profession; all he meant to say was, that from what had fallen in conversation, he thought they might prove interesting to some present. That the subject was not clearly understood, might be inferred from the difference of opinion which prevailed in the profession: for example, with reference to the growth of these tumors, he entirely differed from Mr. Partridge. In his (Mr. Coote's) opinion, the pulsating arterial tumor, and the ordinary capillary nævus of infants, were almost sure progressively to increase, unless interfered with by operation, whilst the venous tumor, though very likely to increase, either progressively, or at irregular intervals, would, in some instances, become stationary, after attaining a certain size.

Mr. CURLING briefly referred to the case of a woman who had died under some obscure circumstances, the only known fact connected with her history being, that she was subject to fainting fits. On examination, an immense nævus was found near the spine. He agreed with Mr. Hawkins, that less danger would have resulted from treating the case under consideration on Mr. Hawkins's plan, than by the one adopted.

Medical Trials and Inquests.

KILDARE LENT ASSIZES—1847.

CHARGE OF MURDER—THE ATTEMPT TO POISON DR. GRATTAN'S FAMILY.

MR. JUSTICE CRAMPTON entered the crown court at ten o'clock, when the trial of Jane Maher and Garret Lynam, for the poisoning of Dr. Grattan's family, was commenced. The prisoners were

dicted for the wilful murder of Richard Grattan, jun., son of Dr. Richard Grattan, of Drumin, county Kildare, on the 18th of August, 1846, by mixing together a quantity of white arsenic, and administering it to him in some flummery, in consequence of which deceased languished and died on the following morning; and Lynam was charged with having incited Jane Maher to commit the crime.

Mr. CORBALLIS, Q.C., proceeded to state the facts of the case to the jury. He regretted that on no occasion had it fallen to his lot to lay so painful a case before a jury for their consideration, nor one which would require greater deliberation from the jury, in consequence of the serious nature of the charge. From the evidence which would be laid before the jury, it would appear that Dr. Grattan had resided in Dublin for many years, as a medical practitioner. Some time since he came to reside in the county of Kildare, where he attended to his profession, for the benefit of his neighbours, and also for the poor, to whom he attended gratuitously. Dr. Grattan held a good deal of land, and was also a gentleman possessed of property, and he employed a number of men on his farm, all of whom he paid most liberally. Wishing to do all in his power to alleviate the distress at present in the country, he purchased a quantity of fine Indian meal, but, most unfortunately, a prejudice existed against that sort of food, although it was well known that Indian meal was a very wholesome and nutritious food. The prejudice existed in the neighbourhood where Dr. Grattan lived, and the two prisoners were loudest in their complaints against it. The meal was brought to Dr. Grattan's on the 14th or 15th of August, but the servants refused to use it; and in order to remove the prejudice from their minds, Dr. Grattan resolved to use it in his family, and he ordered stirabout to be made of it for the family breakfast. This was accordingly done, and the family partook of it on the morning of Monday the 17th of August, but the servants refused to partake of the remainder, and it was given to four calves, all of which died shortly after. It appeared that about a month previously Dr. Grattan had procured a pound of white arsenic to destroy crows, and that he gave it in charge to the prisoner Lynam, and it would be proved that this was used in the stirabout which had been given to the calves, and also in the flummery made on the morning of the 18th of August, of which all the family partook and got sick, and the young son, 15 years of age, died in consequence. The learned counsel went on to detail the facts which will be found in the following evidence:—

The first witness called was Dr. Richard Grattan, examined by Mr. Corballis—I live

at Drumin house, county Kildare, and am a physician, and magistrate of the county; I hold about four hundred acres of land, and employed a large number of men until the failure of the potatoes; I had twelve or fifteen men employed last July; my family consisted of myself, my wife, five children, and five servants—three girls and two men, Patrick Moore and Garret Lynam; the latter I took in as steward; there was Jane Maher, cook, Jane Mulligan, children's maid, and Jane Hops, the kitchen maid; I had a son called Richard; he died on the morning of the 19th of August; he was in good health on the previous morning; I had ordered half a ton of Indian meal from my factor in Dublin, of the best sort, and it was sent down; the workmen used oatmeal before that, and it was weighed out by Lynam to the men; had several conversations with Lynam about India meal; Lynam said it would be an excellent plan to get Indian meal if it were a wholesome food. On the Saturday before my son's death Lynam weighed out Indian meal to the workmen; used the meal in my own family on Monday, 17th of August; we had our breakfast of it, with a small portion of oatmeal, and it was made partly by Jane Maher and myself; gave Jane Maher orders the previous night to make a stirabout for my family of the Indian meal. I went to the kitchen and asked her why she did not make it, and she replied "I don't know how;" she had put too much water in it, and I got some oatmeal to thicken it; she acted very sullenly; it was brought up after, and we all breakfasted off it; it did not disagree with us, but the children liked it very much. I had four calves in the charge of Anne Hops and Moore, and it was her business to feed the calves; the servants refused to breakfast on Indian meal, and I ordered the stirabout to be given to the calves instead of having it thrown out;—I saw three of the calves dead next day; I examined the stomach of the calves and found traces of inflammation, and I am now quite satisfied they died of poison by arsenic, but at that time I did not think of the matter; kept the stomach of another calf and gave it to Dr. Gilligan, and a third stomach was sent to Dublin for examination; I am quite clear that there was arsenic in the second stomach. On Tuesday, the 18th, I was out in the morning before breakfast, and on my return I met the deceased, my son Richard; and very shortly after, as we went along, he said "they are all sick within," and he laughed in a very unaccountable manner; I went in and found them all sick, and retching about the hall and parlour, and they said the flummery made them sick; Mrs. Grattan was retching also; saw a plate full of flummery on the table; secured the flummery; I adopted

such remedies as gave relief to the family; went to the kitchen, and asked the prisoner how it was that the food disagreed with the family, and she replied, "Sir, there is nothing wrong in the flummery." I asked "are you sick?" and she replied "no, I did not eat any of it. It could not make them sick." Went to the kitchen again to make the same inquiry, and told her I would hold her accountable for anything wrong, and that she must be answerable for it, and she then went to the kitchen table, where there was a soup tureen, and said "here are the seeds that I prepared it from—you can examine them." I pushed the seeds away, and said it was to the flummery I would look, and that I would hold her accountable; I then went back to the family, and said to myself "they are all poisoned;" previous to going down a third time, I had ascertained that there was arsenic in the house, as I got it from Pat Moore, who had returned with some oil. There was about half a pound of arsenic; I gave it to Lynam about a month before to lock it up; went to the kitchen a third or fourth time, and saw Jane Maher there with the other servants. I taxed her in a stronger manner, when she spat out a mouthful of water. I asked her "how dare she impose on me, and that she had poisoned the family." She said, "Heaven be my judge;" and I told her I would prosecute her; she said, "I am sick, I ate some of it;" I told her that was a foul falsehood, as she told me before she had not eaten it, and I told her not to pretend sickness any more; accordingly she was not sick. Jane Mulligan seemed to be sick. Considered it dangerous to keep the prisoner in the house, and I desired her and Pat Moore to leave the house at once. She asked to get her clothes, and she walked away in perfect health with a bundle. Pat Moore took the arsenic off a shelf under a hat, and I took it from him, saying, they have been poisoned with this; I locked it up. The prisoner did not express any sympathy, or attend to the children at all, but appeared quite regardless and composed. Did not order her up. My son died in about twenty hours after he was poisoned. Was present at the *post-mortem* examination, and there was no doubt he was poisoned, and that by arsenic; he died of collapse, as the vital action of the stomach was at once destroyed. The stomach was sent to Dublin by Dr. Gilligan.

Cross-examined by Mr. GORMAN.—I was not in the kitchen before I went out that morning, but I saw Pat Moore. Mrs. Grattan used to give the children flummery once or twice a week, as a wholesome food. Lynam was born on my land, and was raised from the station of care-taker to that of steward. The prisoner Maher lived with

me two years, and had an excellent character. The tureen containing the seed she offered me at once, and that was the first time I made any observations suspecting wrong to her; there was no poison in the seeds, as I ascertained that. Must have been more or less agitated when I met Jane Maher first, but was quite composed so far as judging; everything human is fallible. Pat Moore denied that there was any poison in the house on the occasion that he got the arsenic, but he admitted it after, and got it. Met Moore on the stairs, and asked, is there any poison in the house, and he said "No sir." I said "is there any arsenic in Lynam's room?" and he said, "Yes, I believe there is."

Cross-examined by Mr. CURRAN for Lynam.—Had turned off Moore about a year before the occurrence, but took him back again. Should say that Lynam ought to be attached to my family; Moore was in prison on this charge, but can't say how long he was in custody; Lynam was arrested after—I think in September.

The examination of this witness lasted three hours.

Miss Anne Grattan examined by Mr. CRAWFORD.—I am daughter of the last witness, and remember the transaction. I breakfasted on Indian meal on Monday, the 17th of August, with Mrs. Grattan, my brothers William and Richard, in the parlour. Went into the maid's room that night between nine and ten o'clock, and said if they did not wish to eat the Indian meal they might go away in the morning, when Jane Maher said she would not eat Indian meal, and she would go away. Had flummery for breakfast next morning with all her brothers, sisters, and mother. Jane Mulligan brought it up. When I tasted it, it burned my throat. William got sick first, and we all then became sick. Said to the prisoner Maher it was odd that the flummery made all the family sick, and she said she supposed it was the Indian meal they had taken the day before that made them sick; she said she had not eaten any of it; she said she had eaten Indian bread, and it made her sick. Told the prisoner to go up and attend the children, but she did not attend. The prisoner said there was Indian meal in the bread, but I said it was impossible, as I gave out the meal myself. She identified both prisoners.

Cross-examined by Mr. O'GORMAN.—My brother Richard was out after breakfast, and came in with my father; the women had gone to bed when I told them they might go away if they did not eat the Indian bread.

By Mr. CURRAN.—We generally breakfast about nine o'clock, the servants getting their breakfast first.

Jane Mulligan examined by Mr. CON-

BALLIS.—I was children's maid in Dr. Grattan's, and Jane Maher and Garrett Lynam were there also. Told them that Indian meal should be used in the kitchen, and they said they would not stay to use it. On the Sunday evening after, Jane Maher said to a boy, "Did you hear the master is going to stall-feed us with Indian meal in the morning?" That was said to John Malone. There was stirabout, made of Indian meal, next morning; and I brought it up, and the family ate it, but the servants would not eat it. Lynam would not eat it. We took some bread that remained from the day before. Lynam said, "I won't eat it." I ate some flummery that morning, and was sick after it. Told the prisoner to go up, but she refused, saying, "I can't do anything for them."

Cross examined by Mr. GORMAN.—Don't think I was in danger of being hanged or transported; was examined at the coroner's inquest. Don't understand whether what I have stated is material, but of course it is; I think it is of the greatest consequence to the prisoners. Was sworn at the coroner's inquest, and the conversations are as fresh on my mind to-day as then; but on the day of the inquest I did not recollect so well, although I do remember them now. Said I did not recollect the conversations as well at the inquest as I do to-day. Swore the reverse of my present answer. Don't know where Moore is (the witness admitted that she was often alone with Moore in his room). I sent him 2s. 6d. to the police-office after he was arrested, as I owed him 2s. Told the story before the magistrates, but not at the inquest.

Mr. GORMAN read the informations and statement made at the coroner's inquest by the witness, but there was nothing about the conversations mentioned therein. He asked her if she remembered about the poison on the day of the inquest, and she replied, I did; I thought it very natural, but did not tell it. Jane Maher did not ask me to stir the pot, but I offered to do it while she would be at breakfast. She cleaned the saucepan before putting down the seed. The prisoner Maher ate the greater part of her breakfast while I was stirring the pot. She did not ask me to put a hand to the stirabout at all that morning. Was before the magistrates three times besides the day of the inquest. The mistress sent me for Jane, but she would not come up, as she said she could do them no good.

Dr. Thomas Geoghegan, examined by Mr. CORBALLIS.—I am a Professor of Medical Jurisprudence, R.C.S. Made an examination of five different vessels in September and October last; on the 26th of August I received from Mr. Seed, Crown

Solicitor, five vessels marked A B C D and E. The vessel A contained the stomach of a calf, B a small bottle containing about half an ounce of flummery, C was a moist matter resembling a mixture of oats and water, D a vessel with Indian meal, and E a human stomach and its contents. In the stomach of the calf I found white arsenic; analysed the flummery and found arsenic in the proportion of six and one-tenth grains in the whole quantity: 265.5 grains was the weight of the whole quantity of flummery. The mixture of oats and water furnished no portion of arsenic; the Indian meal furnished no trace of arsenic. The vessel E, with the human stomach, furnished a small quantity of arsenious acid: in comparison to the whole, the quantity was one-eighth or one-tenth of a grain. The lining coat of the stomach was swollen as if from maceration; it was of a yellowish brown colour, mingled with blackish streaks. Had morbid appearances existed when the stomach was first opened, they might have disappeared from the process of maceration. Inflammation of the stomach is not a necessary consequence of poisons as arsenic. The stomach was necessarily destroyed in the analysis. Received the things mentioned from Professor Barker.

Cross-examined by Mr. GORMAN, but nothing particular was elicited.

To Mr. CURRAN.—The last case I am acquainted with was *Letheby's case*, where life was destroyed in thirty-six hours by two grains and a half of arsenic, but the smallest dose sufficient to kill would depend on the age of the subject.

To Judge CRAMPTON.—The last Editions of *Beck's Medical Jurisprudence* are good, but I consider Taylor's a better authority. The portion of arsenic found in the stomach after death is little if at all concerned in the production of the fatal result. There is no relation between the quantity discovered in the stomach and that taken by the deceased. The portion which proves fatal is that which is absorbed.

To Mr. CURRAN.—The process adopted is carbonization with pure sulphuric acid, and precipitation by Reinsch's process. The arsenic sublimed was found to furnish plain and truncated octohedra to the microscope, which on solution gave the characteristic precipitates, with the copper, silver, and sulphuretted hydrogen tests.

[The calf's stomach is at present undergoing a modified process of putrefaction; i. e. the tissues, which are firm, and show the natural folds of mucous membrane distinctly, are, as well as the contents, strongly acid, although kept since last August in an open jar. The smell is disagreeable and rancid.]

Mr. Francis Barker.—I am a Professor of Chemistry in Trinity College, Dublin. I received the five vessels alluded to from Mr. Seed in September last.

Mr. Seed proved that he gave the five parcels to the last witness, having received them from Dr. Geoghegan; first got them from his brother, Mr. Stephen Seed.

Mr. Stephen Seed examined.—I received the parcels in question from a brother of Dr. Grattan's on the 26th August. They were sealed, and I gave them to the last witness.

Mr. John Grattan stated that the materials in the five vessels were sealed up in his presence by Mr. Dopping, and the latter gentleman proved that he gave the parcels to the last witness. Some of them were given to witness by Dr. Grattan, and more by Dr. Gilligan.

Dr. Michael Gilligan examined.—I am a physician, and made a *post-mortem* examination of the body at the time of the inquest. Examined the stomach, and my opinion is that death was caused by poison from arsenic. Took out the stomach and gave it to the last witness. Attended Dr. Grattan's family, and found them all retching about five o'clock in the evening. Anne Hops was retching also, but prisoner Maher was not. There were seven of them retching yellow matter, as if they had taken poison.

Dr. Grattan was re-examined as to his giving some of the parcels above marked to Mr. Dopping.

(The examination of the three or four last witnesses was for the purpose of showing that the articles came in a direct line, from the time they had been given to Mr. Dopping, until they came into the hands of Dr. Geoghegan.)

Anne Hops, examined by Mr. GORMAN.—I lived with Dr. Grattan, and recollect Monday, the 17th August. The Indian meal was made into stirabout for the first time that morning. Saw the prisoner Jane Maher in the kitchen all the morning. Dr. Grattan was there, and he was showing the prisoner how to make the stirabout—as she told me the master showed her how it was done in the poor-house. She said she would not take it for food, as she could earn her bread elsewhere. Remembers the next morning when she had flummery for breakfast. Found an unpleasant taste on it, and it burned my stomach; in six or seven minutes I remarked it to Maher, as she was not in the kitchen when I eat it. Told her I was very sick, and that I ate some flummery, and she said it could not have sickened me. She took up some of the seeds, and said, "There they are, what could be amiss with it?" She said she found herself sick. I asked, "Did you eat

flummery?" She said, "No; it must be the Indian meal that was in the bread which I took for breakfast." I said there was no Indian meal in that bread as Miss Grattan gave it out. The prisoner said yes, but the door closed when Miss Grattan was giving out the meal.

Cross-examined by Mr. GORMAN.—I ate the stirabout on Monday morning, but none of the others except Moore.

Mr. GORMAN rose to address the jury on behalf of the female prisoner. He never had (he said) addressed a jury with more anxiety as to the result of the trial, as the verdict was either to restore the prisoners to their families, or consign them to an ignominious death. His client had an excellent character, and bore it up to the time of the transaction; and as for Lynam, he was reared on Dr. Grattan's property, and raised from one station to another until he was made steward of, and in this capacity he had the greatest interest in the preservation of the lives of his master and family, instead of entering into a diabolical conspiracy to murder them. There was no doubt a prejudice against the Indian meal, but did not Lynam, according to the evidence, say to Dr. Grattan that it would be an excellent plan to get it? The learned gentleman then went on to recapitulate the evidence, dwelling on the testimony of Mulligan, who he said was the only prop of the case. There was a degree of honesty about the expressions made use of by Jane Maher, when she said she would leave the place, and earn her bread elsewhere. Would a person so acting concoct the horrible crime of murdering a whole family? With regard to the conduct of Mulligan, in volunteering to make the flummery on the morning in question, Mr. Gorman dwelt on it in very strong terms. It was said that Maher put the arsenic in the flummery, but it would appear that Mulligan was the only person who stirred the pot that morning, and she swore she never had done so before, and that she volunteered to do so that morning. He would ask, had she (Mulligan) not as good an opportunity of putting in the arsenic as Maher had? Nay, better; for it was sworn that Moore knew where the poison was, and got it for Dr. Grattan, and the jury should recollect the intimacy that existed between Moore and the witness. He contrasted the swearing of Mulligan at the coroner's inquest and what she stated on the table, and characterised it as foul perjury. She must have recollected all that she swore yesterday better on the 21st of August, the day of the inquest—the day but one after the death of the boy—than she could at the present moment; and yet she said not a word about the conversations said to have taken place between herself, Maher, and Lynam, until

long after; and she got out of that by saying she was not asked the questions. (He read the evidence given on the inquest, and contrasted it with what the witness swore on the table). Could the jury reconcile such swearing? Could they believe that it was for the object of seeing the children sick that she sent for Moore after he was discharged? No; it was for the purpose of arranging some deep matter that existed between them, for the poison was in the room where Moore and Mulligan were often found; and would not that raise difficulty in the minds of the jury as to the guilt of the prisoners? The learned gentleman spoke for two hours in very eloquent terms, commenting on all parts of the evidence in a lucid manner, and contrasted the evidence given by Hops and Mulligan, and concluded his able address by calling on the jury to acquit his clients.

Mr. CURRAN then addressed the jury on the part of Lynam, and submitted that the man must be acquitted, and that the woman could be only found guilty of manslaughter, inasmuch as the poison might have been given out of no harm. He cited some cases out of Roscoe, 687, in support of this point, and spoke with great force and eloquence, dwelling on the improbability of the guilt of the prisoners.

The following witnesses were then called for the defence to speak to the character of the prisoners:—

Michael Williams, Esq., of Williamstown, county Kildare, a magistrate of the county; Mr. James Murphy, and Mr. Patrick Kennedy, were examined. The first gentleman gave the female an excellent character, and the two latter spoke to the character of Lynam in very good terms.

Mr. GRIFFITH then replied on the part of the Crown, and

Mr. Justice CRAMPTON proceeded to sum up the evidence. He told the jury they had a very solemn duty to perform, in deciding on the lives of the prisoners; and, if the evidence were to be credited, the prisoners were guilty. They had no evidence why Moore was absent, as he was a competent witness either for the Crown or the prisoners, but it would not be right to make suggestions at either side for his absence. It was not necessary to attribute motives for such a crime, but it might be satisfactory to a jury to find a motive for the crime; but, if they could see no motive, and that the crime was committed, the law found the parties guilty, notwithstanding the absence of a motive, as the crime was committed maliciously. The important matter they had to try was the evidence in the case; and, if they did not credit the substance of the evidence given by Jane Mulligan against Lynam, they could not convict him; but, if they believed her to be a faithful witness,

the case against him was established. The evidence against Jane Maher was of another sort, being more circumstantial. There were three inquiries to be made, as the murder was committed by poison. The first question was, was death caused by poison?—second, if so, was it administered maliciously and by design, or by accident? If by the latter, there was no crime. It was plain the death of the young man was caused by eating flummery which contained arsenic; and, on the same evidence, the calves died of poison by arsenic also. Was the death of young Mr. Grattan accidental or not? It was for them to say if the poison was put into the flummery by design. The third question was, who were the perpetrators of the guilty deed? It was alleged by the Crown that the prisoners were the parties, and the jury might reasonably conclude that whoever poisoned the calves were the same persons or person who mixed the poison with flummery. They should not convict on surmise: they must be satisfied beyond all doubt before finding a verdict of guilty. He did not think they ought to arrive at any hostile verdict to either party in consequence of the absence of Moore. The questions they had to try were, where did the arsenic come from, and who gave it to the person who put it into the flummery, if put into it at all? His Lordship then went over the evidence in detail, and concluded by telling the jury that if they believed the testimony of Mulligan (unshaken as he thought it was) they should find a verdict of murder against both parties; but, on the other hand, if they believed that the poison was given merely to make the family sick and frighten them against the Indian meal, they could find the woman guilty of manslaughter, and acquit the man altogether.

The jury, at five o'clock, retired, and remained in their room until half-past six, when they returned a verdict of Not Guilty. The prisoners were then discharged.

Correspondence.

ON THE APPOINTMENT OF OFFICERS OF HEALTH UNDER THE HEALTH OF TOWNS BILL.

SIR,—As some of the provisions of Lord Morpeth's Health of Towns Bill must, if carried into effect, exercise an important influence upon the future welfare of our profession, and as you have promised to consider the details of that measure in future numbers of the GAZETTE, I may perhaps be permitted to direct your attention to that clause which provides for the election of Health Officers.

The powers entrusted to the gentlemen filling that office under this or any other sanitary measure are of a very important and peculiar nature, and will require for their effective employment three essential qualifications; viz.—

1. A professional and scientific standing sufficient to imply the possession of the requisite knowledge.

2. Perfect freedom from any local connections which might interfere with the faithful discharge of their public duties.

3. A personal character and demeanour calculated to inspire respect, and to conciliate those persons whose interests may suffer from their collision with the public good.

And in order, I presume, to secure the possession of these qualifications, the bill in question proposes to place, in the hands of the Central Board of Health the appointment of those officers for the whole of England. Now, if that Central Board were composed exclusively of medical men, and they of the first rank in the profession,—men distinguished for scientific attainments, practical skill, or extensive erudition, and wholly independent of all political influences,—I could then understand and recognise the wisdom of the arrangement; but when it is evident that the medical Commissioners will constitute a decided minority (if, indeed, the profession be represented by more than one member), and when we find that the Central Board is presided over by a gentleman officially connected with the existing Government, even though that president be a nobleman so universally respected as Lord Morpeth,—there is, I think, great reason to fear that the disposal of these offices will be regulated much more by Parliamentary considerations than by a regard to the scientific qualifications of the respective candidates; and that here, as in the case of colonial and other public medical appointments, private recommendations will prove much more successful than the most convincing proofs of professional ability and general fitness. This possible abuse of patronage may be guarded against by the adoption of one or other of the following plans:—

1. By requiring the central board to advertise for candidates, and to publish the names of the gentlemen applying.

2. By constituting an auxiliary board of recommendation, to be composed of men holding the chief honorary medical appointments in London, as for instance the presidents of the Colleges of Physicians and Surgeons, the president of the Royal Medical and Chirurgical Society, the medical members of the senate of the London University, and the senior physician and surgeon of each of the London hospitals; al-

lowing this council to nominate from the list of candidates such individuals as they might deem most eligible, and leaving the Central Board of Health at full liberty to attach to this recommendation whatever value it might appear to them to deserve.

Or, lastly, by leaving the appointment in the hands of the local administrative bodies, subject to the approval of the central board, the latter also retaining the power of dismissal together with the other powers secured to it by the Bill.

I must apologise for the length to which these remarks have extended,—they have been dictated chiefly by a desire to obtain, if possible, your powerful advocacy of the principle of *open* election in all public medical appointments,—a principle which I believe to be essential to the preservation of the honour and dignity of the medical profession, and to the advancement of medical science, and the enforcement of which, on the present occasion, would doubtless pave the way for beneficial changes in the other departments of the public service.

Your obedient servant,

MACHAON.

April, 1847.

REMARKS ON MEDICAL ORGANISATION IN THE PROVINCES.

(From a Correspondent.)

THE enthusiasm in favour of medical reform is on the decline in the provinces. Country practitioners plainly declare that they have been deceived. Some have resolutely buttoned up their pockets, and will not allow any more operations to be performed on their purses. Guinea after guinea has gone into metropolitan funds, and they now ask one another the *cui bono*. In fact, it would appear that the corporations have turned upon their pursuers, and the defence is changed into an attack. The College of Surgeons has reformed itself at the expense of at least the feelings of its members, and the College of Physicians proposes to go a step farther, and reform itself at the expense of both the feelings and purses of the provincial portion of the body—the Extra-Licentiates. Whether these gentlemen will tamely submit or manfully resist, remains yet to be seen. Guineas may, however, be better spent defensively than offensively, at least guineas must be spent in the defence, if defence there be.

But perhaps the most alarming sign of the times is the proposition to establish a College of General Practitioners. Reformers count up nineteen legally constituted bodies for the education of professional novices as well as the government of professional men, and now there is a proposition for the

What makes the case more serious to the provincial practitioner, is that the other metropolitan corporations are to be the model of this, and thus it will only be a slow stage in which a few ardent ambitious men of the metropolis may hold themselves up to the gaze of the professional empire. The dweller in Liverpool, York, or Newcastle, cannot leave his home and his practice to join in the fierce encounter of master-spirits; his ambition may whisper the propriety thereof, but the necessities of home will tell of practice to be lost, patients to be dissatisfied, and receipts to be curtailed, by such a wild-goose chase as this would be. A good family patient would, in the exigencies of the times, be a more useful acquisition than the title of *Member of the Council of the Royal College of General Practitioners of England*. Every absence from home on behalf of the former would add to the sum total of the year's income; every absence from home in the honourable capacity of the latter would diminish it.

Nevertheless there must be a reality in the desire for medical reform in the provinces, otherwise the hard-earned guineas would not have been so freely disturbed. We suspect, however, that the provincial practitioners are not as yet aware of the nature of this desire nor of the means by which it may be gratified. They have got so far as to know that the means proposed will not be sufficient, and this is something, because they may now set to work and deliberately inquire what it is that they, the practitioners, in the large towns and cities do want, and having ascertained this, how the want may be satisfied. We can readily imagine an enthusiastic spirit reading these remarks with scorn and disdain—What, (such a one will exclaim,) are our memorials nonsense, our petitions foolery, our letters in the journals signed "Vindex," or "an Old reformer," "a Hater of monopoly," "Anti-quack," &c. &c. are they but trash? Neither nonsense, nor tomfoolery, nor trash; the words of good and true men desiring a good theory, are they, and yet unhappily *vox et præterea nihil*.

Let us go over the "wants," or some of them. *In primis*, "we want the suppression of quackery and quacks." Very good. What quacks and quackery? "Oh, the quack advertisers of specifics!" says one, not a "patent medicine should be permitted." Your want cannot be gratified, gentle, honourable brother: it cannot, indeed. Ask the experience of those statesmen to whom the power of a despotic or quasi despotic government have been entrusted for the express purpose, and they will shake their heads, and say, you may regulate the sale of specifics, but you cannot suppress it; you may fine and imprison offenders; they will

only be the more successful, and therefore the more numerous. Dennis Cronin's fortune is made by a prosecution. The public will not tolerate the dictatorial tone of medicees seeing it rebel against the assumptions of priests. Besides, may we not ask whether there is not a "want" on the part of the public, both lay and professional, for special remedies? Look into the dispensaries of our medical institutions: is there one, a solitary unit, in which there are no stereotyped formulæ used, no bottles, capacious in dimensions, and daily filled with compounds made after such formulæ; no drawers crammed with formulary pills or powders, no boxes with formulary unguents? Or let the general practitioner "look at home" into his "surgery," and we will ask him to answer as in honest fairness why the public may not have a "fever mixture," or a "carminative mixture," or a "family aperient pill;" or whether "a black draught" shall issue from his sacred adytum alone?

The desire for remedies having a specific object is a natural desire; it is shown by the Pharmacopœia; by the formulæ of public medical charities, by the shelves of thousands of practitioners, by tens of thousands of columns in newspapers. How would the man of common sense act in this case? would he not say let us take the supply of this natural desire out of the hands of the quack; let there be an official popular materia medica as well as a professional one, or at least let the advertised formula go forth to the world guarded and sanctioned by the experience and science of the profession. Thus the evil attending on the use of specific remedies would be reduced to a minimum, and what is now a disadvantage and a wrong to the profession would be an advantage and the exercise of a right.

But this is only one of twenty matters which should be well considered by the profession in the provinces, because they all are to be successfully managed only by an organisation which shall confer wealth and political influence on the profession. The management of medical charities, the suppression of ruinous competition, and the odious sin of professional quackery: these and many others can only be obtained by an effective organisation of the profession in the provinces.

The provincial practitioner must then aim at a reform which will confer wealth, and the power of local self government: let him bring every plan to the test, and judge it by its capability of attaining to these.

VAPOUR OF ETHER IN SURGICAL OPERATIONS.—CASE OF MRS. PARKINSON.

SIR,—Permit me to express my thanks for your politeness in inserting my queries in the *MEDICAL GAZETTE* of April 2d.

Having well considered the case, so far as the material I now possess will enable me to do, I shall be further obliged by your allowing me an opportunity of making a few remarks, premising that I wish only to deal with the case in reference to the experiment with the vapour of ether, not desiring to give any opinion as to the medical or surgical treatment of the patient in other respects.

In the first place, the patient was not in a state favourable to the experiment—"She was a delicate woman subject to cold on the slightest occasion," (evidence of Mrs. Lenke). "She was very much out of health, and was directed to wean the child, and leeches were repeatedly applied to the tumor at intervals of two or three days." The operation of acupuncturation was repeated several times. Mr. Robbs had tried the effect of the administration of the vapour of ether twice before, and failed in producing complete insensibility, (see Mr. Robbs's own statement in the *MEDICAL GAZETTE* of the 2d instant.)

2dly. Another unfavourable circumstance in the case was the fact of the operator having no faith in the experiment, having only been induced to try it by the solicitation of the patient.

3dly.—The apparatus employed was not properly constructed, the air valve being closed by a poised weight instead of being open to admit the free ingress of atmospheric air. Under such arrangement, the patient becoming insensible, and especially in a protracted operation, would not probably inspire with sufficient force to admit the air. This would present a serious check to the experiment. The valve of expiration being closed by a poised or kind of flute-key stopper would not act as freely as that which I have been in the habit of using—a conical one. This would have a tendency to cause the patient to inspire and expire again into the same vessel, thereby vitiating the ethereal vapour, and subjecting the patient to asphyxia. No provision was made in the apparatus to generate a little aqueous vapour to be mingled with the ethereal vapour and atmospheric air, which would render the ethereal vapour less irritating to the lungs, nor had it the power to purify impure ether: nor was there any stop-cock or any other contrivance for regulating the admission of the vapour.

4thly.—The patient never appears to have been completely insensible, nor were proper precautions taken to adjust the mouth-piece,

so as to enable her to inhale the vapour in sufficient volume and density to render the nervous system unsusceptible, nor was the vapour administered continuously.

' During the period she cried out much, complained, and writhed in great pain. It was suggested by all present to be advisable to re-administer the vapour, as its proper effects were not produced. I consequently requested Mr. Dibbin and my son to replace the inhaler to the patient's mouth while I continued my dissection. *The inhalation was not continued during the whole of the time, nor was it reapplied till the cries and struggles of the patient became so great as to be under no control, and then both Mr. Dibbin and my son state that it was very imperfect, and only at intervals, the position of the patient being very unfavourable.*" (Mr. Robbs' own statement; see *MEDICAL GAZETTE*, April 2d.) It is also stated that the conjunctiva was sensible.

5thly.—The specific gravity of the ether when perfectly pure and free from acid or alcohol, is 730. In this case it is stated to have been 733 to 765.

6thly.—The parties who administered do not appear to have had much experience in cases of importance, "six or seven times, several cases being merely extraction of teeth, and one the removal of a portion of a toe." No case of importance is mentioned in which they have previously tried the experiment.

7thly.—The mouth and nostrils were not properly closed so as to exclude atmospheric air during the second inhalation. The position of the patient was very unfavourable (see Mr. Robbs' statement.)

8thly.—The apparatus in this case was placed below the mouth, and the ether being heavier than atmospheric air does not so readily ascend without some little effort on the part of the person inhaling it. Operators should bear in mind that ether vapour is very heavy, having a specific gravity at a temperature of 60°, and a pressure of 30 inches of 2.58 to 1 compared with air: owing to this it falls to the bottom of vessels, and may be poured from one vessel to another much more readily than carbonic acid; hence it follows that when the apparatus is above the level of the patient's mouth the respiration of the vapour is much facilitated by its density, and its tendency to flow at once into the lungs. The reverse happens when the source of the ether vapour is below the level of the patient's mouth.

9thly.—The appearances of the body are not such as would justify the expression of an opinion that death was caused by the ether, especially with the limited experience at present possessed. "The lungs were pervious, they were a little congested at the

posterior part, which witness attributed to the position at the time of dissolution. The heart was healthy in structure, but more flabby or flaccid than usual, and contained rather less blood than usual. The brain was quite healthy, with the exception of the upper part of the anterior lobes, the membranes of which were congested with blood, and there was no effusion in the ventricles" (Evidence of Mr. Eaton).

Amussat states that, "The anatomical alterations observed in animals killed by the inhalation of ether were, distension of the heart from accumulation of dark blood in all its cavities, congestion of the lungs, liver, and kidneys, the brain betraying signs of hyperæmia in some cases."

Had the medical gentlemen ever been before engaged in, or present at a post-mortem examination in a case of poisoning by ether? Apologizing for the length of these remarks,—I remain, sir,

Your obedient servant,

A. FAIRBROTHER,
Senior Physician to the Bristol
General Hospital.

Bristol, April 13th, 1847.

CAUSE OF THE FAILURE OF ETHER VAPOUR IN SURGICAL OPERATIONS.

SIR,—It has occurred to me in my own practice, as well as from reading the various reports in your excellent journal of operations performed with different success under the influence of ether, whether many of the failures or cases of only partial success may not have arisen from the badly adapted form of the mouth-piece to the mouth and cheeks of the patient. In one case that came under my notice, when the cheeks were sunken, I have reason to suppose there was more atmospheric air inhaled in consequence of this maladaptation which rendered the result imperfect; this might easily be remedied by that portion of the apparatus being made elastic, so as to be suitable to any form of face. The mouth-piece being so formed, and the mixture of good sulphuric ether and atmospheric air being rightly proportioned, I do not think any idiosyncrasy or other circumstance whatever can prevent an individual from being influenced by this powerful agent. There is a great field for research open to the profession to ascertain when it may be used with advantage and when it should be avoided as a dangerous experiment; we may hope that whatever failures take place, and however some may appear to be directly the effect of the vapour, that the ether may not be (as many valuable discoveries in medicine have been) discarded altogether, in consequence of some deaths following its use, which might just as probably have occurred without it. There is no present

prospect of such being the case, but the two or three deaths, currently reported by means of public newspapers (not being confined to medical periodicals) will do much to give the public mind a distaste for ether under any circumstances, however applicable the exhibition of it may be; and if public opinion should be set in opposition to it, this invaluable remedy will soon sink to a low ebb.

Yours obediently,

ALFRED PRIDEAUX.

Liskeard, April 12th, 1847.

REMARKS ON MR. EASTMENT'S CASE OF THE FATAL EFFECTS OF ETHER.

SIR,—Several cases have now been published in which surgical operations performed on patients under the influence of ether have terminated fatally; but an immense number of successful cases are also before the public. It therefore becomes our duty to endeavour to ascertain the causes of these occasional fatal terminations. The case of Albin Burfitt is reported in your last number in so candid a manner that I trust Mr. Eastment will not object to my asking a few questions, his replies to which may probably throw some light on the subject:—

1. What was the apparatus used?
2. What were the indications that the patient was under the influence of ether?—"His sufferings," says Mr. Eastment, "were so severe, that the clergyman of the parish, the Rev. Mr. Martin, remarked that the remedy was quite a failure."
3. Did the muscles contract in the usual manner on making the circular incision?
4. What means were employed to recover the patient from his state of exhaustion?
5. Was it ascertained, by examination after death, whether the spine had been injured, or whether any internal hæmorrhage had taken place?—I am, sir,

Your obedient servant,

G. HARVEY.

Castle Hedingham,
April 14, 1847.

Selections from Journals.

PATHOLOGY.

CASE OF CANCEROUS COMMUNICATION BETWEEN THE STOMACH AND COLON. BY DR. W. WATERS.

[THE Editor of the Medical Examiner remarks:—Cases like the following are of deep interest to the physiologist and pathologist. The communication which existed between the stomach and the colon, and the condition of the pylorus, must have interfered with the passage of aliment into the

small intestine—the great seat of chylosis. Is the chyle, in such case, formed and absorbed in the colon, or may chylosis be effected, as suggested by Bouchardat and Sandras, and others, on certain aliments at least, in the stomach itself?]

V. D., aged 65 years, corpulent, and of temperate habits. In July 1843 he was attacked with symptoms of dyspepsia, such as flatulence, acid stomach, and some pain, heaviness, or sense of fulness across the epigastrium. These symptoms were frequently present until the 10th of January, 1844, when hæmatemesis occurred. It was evident that the blood was of an arterial or vermilion colour. The discharge of blood was copious—*sursum et deorsum*. At this time the colic pains were pretty strong, which, with the hæmorrhage, were controlled by opium and acetate of lead in the first 24 hours. From this period the vomiting recurred occasionally, with irregular colicky pains, more especially about night, for several weeks. On one occasion the matter thrown up was observed to be puriform. The hæmorrhage and pus together led the author to suspect organic disease in connection with his former dyspeptic symptoms. The urgent symptoms were combated, after reaction from the hæmatemesis, by cupping, wet and dry sinapisms, and other counter-irritants, and occasionally a few doses of blue pill. The treatment was pursued during January and February 1843, when the vomiting ceased, but occasionally he would feel pain, especially from improper diet. From this time, although his actual suffering was much abated, and he was able to take exercise on foot and in his carriage generally, yet the carcinomatous hue or lemon tint evident in January last, was present throughout the whole course of his disease, attended with great emaciation, such as we usually see in *tabes mesenterica*: his full and corpulent person was reduced to a mere skeleton, comparatively. In the case of Mr. D. there was less fever than in any organic disease of the stomach that the narrator ever witnessed. He died on the 26th of December, 1844, 19 months after the first appreciable symptoms of dyspepsia.

Autopsy.—The tumor, felt distinctly in this case a short time before death between the ensiform cartilage and umbilicus, and more on the right than on the left of the median line, was not nearly so distinct as during life. Omentum considerably absorbed and diseased. Stomach: the pyloric end in a scirrhus state for more than two inches around and above the pylorus, and in some places more than an inch thick; the whole inner surface ulcerated, adherent to all adjacent parts, such as the liver, for an inch square, and the colon; here was a perforation of the stomach and transverse colon

about half an inch in diameter; the edges of the perforation scirrhus, mesenteric gland indurated generally: the other abdominal viscera healthy. Chest: Lungs healthy; pericarditis had existed here (as in every case of organic disease of the stomach Dr. Waters has ever witnessed:) surface of the heart covered with coagulable lymph.

[REMARKS.—We do not think that this interesting case throws any new very light upon the physiology of the digestive function. We are not told precisely to what degree the pyloric orifice was obstructed, but it is evident that most of the food must have escaped into the colon through the fistulous opening; when a portion of it probably became absorbed from the intestinal surface in the same manner as in those cases where life is long maintained by injections. The remark upon the frequent coincidence of pericarditis with organic disease of the stomach deserves attention, but requires additional observation: we have certainly examined instances of malignant disease of the stomach in which there were no traces of pericardial lesion either of old or recent date.]

SURVIVANCE FOR FORTY DAYS AFTER THE SEPARATION OF FORTY-FOUR INCHES OF LARGE INTESTINE. BY W. HILL, ESQ.

THE subject of the following history was a lady aged 65, who had long been in delicate health, and a sufferer from constipation, as well as from many of the distressing symptoms of dyspepsia. On the 26th of August, 1844, she was attacked with violent pains in the bowels, for which she took two doses of castor oil, and applied fomentations, without any benefit. (At this time she had not had any alvine evacuation for eight days, and for a month past had neglected to use laxative medicines.) On the afternoon of the same day Mr. Hill found her suffering from pain in the abdomen, which at intervals was intense. He ordered her enemata, and a sinapism to the abdomen. At his evening visit he did not find her in any degree relieved. She was rejecting every kind of food, and complaining of great tenderness of the abdomen on pressure; there was tympanitis; the pulse was 120, small and sharp. She was now bled to eighteen ounces; this made a considerable impression upon her pulse. Calomel and opium were prescribed in the form of pill, and the bowels were distended by an injection to the fullest extent which could be borne; but the fluid returned without having acquired, in the very slightest degree, a feculent odour or aspect.

During the four following days the vomiting ceased, and the pain and tenderness of the abdomen diminished, but the bowels were not relieved. The treatment consisted in the application of eighteen leeches to the

abdomen, followed by a blister. An occasional soap enema was administered, and the calomel was continued to the extent of affecting the gums.

Aug. 31st.—She has had several copious and exceedingly offensive motions. The pain and tenderness are nearly gone; the tympanitic distension is much diminished. Hiccup (which set in on the 21st), though less frequent, still continues. She was ordered to have chicken-soup, with a table-spoonful of wine, every two or three hours.

Sept. 1st.—There have been abundant dejections of dark-green offensive feces.

2d.—The pain and hiccup have ceased, but the diarrhoea continues.—To have five grains of Dover's powder immediately, and five grains more every fourth hour.

3d and 4th.—The diarrhoea continued in spite of the opiate enemata, &c. which were resorted to.

5th.—Mr. Hill was suddenly sent for by the nurse, who had become much alarmed by feeling something extraordinary protruding from the rectum. In consideration of the diarrhoea, he at first supposed that this might be a protrusion of the rectum itself. On examination, however, he found a shrivelled substance, about four inches long, hanging down, and attached to something soft within the sphincter. Gentle and continued traction brought away a portion of the entire intestine, which, with what had been protruded, measured forty-four inches; it was so decayed as to taint the whole apartment with its putrid odour.

Oct. 14th.—For about ten days after the last report the tendency to diarrhoea continued, but was kept in check by opiate enemata. For nearly a month the bowels were moved naturally once or twice a day. She took a little food with considerable relish, and complained only of great general debility and exhaustion, till to-day—forty days from the separation of the portion of intestine—when she died, leaving a frame the most attenuated the narrator ever saw endowed with life. Until moribund she retained full possession of her mental faculties.

Autopsy four days after death.—The intestines were traced from the stomach downwards, and found healthy onwards to the colon, which, from the left iliac region upwards to the lower rib, had formed strong adhesions to all the neighbouring parts; it was dark and fragile at its lower part. A large cavity was formed on a line with, and above the *os ilium*, by adhesions; it was full of feculent matter. The upper part of the rectum, and the lower portion of the colon, opened into this cavity. The sigmoid flexure was wholly wanting; and the colon, from the caput cæci to its termination in

the cavity, as above described, measured only fourteen inches.—*Monthly Journal of Medical Science.*

HYGIENE.

EMANATIONS FROM THE DEAD ARE INVISIBLE AND IRRESISTIBLE.

It would seem that interment of the dead within churches or vaults, or in burying-grounds, surrounded with houses, or in the immediate vicinity of densely populated cities or towns, is so familiar from its frequent or daily occurrence,—accidents clearly traceable to the influence of putrefying effluvia so seldom, comparatively, arise from the practice of inhumation,—that the most perfect indifference appears to prevail upon the subject; no danger seems to be dreaded, no fear excited, no apprehension even entertained of the injurious and destructive agencies which are constantly in operation, and armed with invisible and irresistible powers. It would not be difficult to show, that some of the most afflictive visitations of Providence have originated in the contamination of the atmosphere from putrefying animal substances, and that to the neighbourhood of the grave-yard may be attributed the violence, if not the origin, of some of the most destructive diseases which have depopulated the human race.—*Gatherings from Grave-yards*; by G. A. Walker, Surgeon.

HOMŒOPATHY.

DR. HAMILTON ON HOMŒOPATHY.

How then are these pretensions so aspiring, backed with success apparently so flattering, to be met? Were they based upon truth, none certainly would receive them with more cordiality than the regular practitioner, who would thus find his studies, his labours, and anxieties curtailed, and his fond aspirations reached by a road far shorter and easier than any he had previously dreamt of.

Very different, however, is the estimate which every right-thinking man is compelled to form.

1st. First he looks to the origin of this movement, and finds it was introduced by a man who, previous to the publication of "*The Organon of Medicine*" in the year 1810, had once before deceived the world by selling at a high price, under the name of *Pnæum*, a nostrum which consisted of nothing but borax. This is a fact, which, as stated by Dr. A. Mühlry, of Hanover, has never been denied, even by his adherents, and which in strict justice should never be forgotten. (l. c. 44, 565).

2dly. In turning to the speculation itself,

the enquirer encounters something the most transcendental and irrational that was ever imposed upon the world. This is especially true regarding the famous globules—those medicines through whose instrumentality the homœopath effects his cures. They constitute his *Materia Medica*, derived from substances all of which have long been catalogued in the regular *Pharmacopœias*. His only originality in this particular consists in the method of preparation and administration; and this by division and attenuation, by means of trituration and solution, to an extent exceeding alike the comprehensible operations of arithmetic and all possible conception. Thus, as is well known, a grain of chalk or of charcoal, when triturated at the first attenuation, contains the 100th part of a grain, or of a drop of its primary solution; at the second, the 1000th part; at the third, the 100,000th part of a grain, and so on to the 30th attenuation; the effect of which, according to the statement of a learned member of our society, is simply this,—that when the 30th dilution is employed, the number of globules through which one grain of the drug is diffused is so enormous, that, (twenty globules being allowed to the inch), they would, laid side by side, inconceivably exceed in length the line which has been traced by the annual revolutions of the earth round the sun, and by its diurnal revolutions on its own axis, ever since the creation!

But this is not all. One of these globules of the 1st, or 3d, or 12th attenuation, is not only a fit and proper dose to be given as *the remedy* for severe diseases, but it is an agent of such potent influence upon the animal economy, that one dose of this amount will continue acting for thirty, forty, or fifty days, and must not be interfered with by repetition, for fear of deranging or destroying its curative virtues! Thus Hahnemann tells us that the sextillionth of a grain of carbonate of ammonia will act beneficially for upwards of thirty-six days,—that the decillionth of a grain of oyster shell (*calcareo*) will require forty, fifty, and even more days to effect all the good it is capable of, and that a like dose of phosphorus will act for at least forty days!! (l. c. No. 41, 230).

Once more, this original, fundamental, and unmixed folly of Hahnemann, one would have thought the very climax of absurdity. But far from it. Some of the professors of this art are going a great way further. Thus, Dr. Grosse, a practising physician at Jütterbuck, has lately published a paper in the 21st Volume of the *Homœopathic Archives*, in which he contends for the extension of the attenuation from the 30th, Hahnemann's limit, to the 100th dilution, to the 200th, 300th, 400th, 500th, and so on to the 900th dilution, at the same time

allowing the patient only to smell the remedy,—a favourite practice with the great inventor of the system,—and this but once a month or so, in expectancy of the cure. (No. xlv. 568.)

One is almost driven to conclude that this must be intended as a mere hoax,—an extreme experiment upon the gullibility of the simple. But it is nothing of the kind. Grosse urges this improvement upon the system, because he has found in practice that the common attenuations are too strong, *only rendering the disease worse*. (I quote his words), without in the least promoting the cure; whilst, by his further dilutions, he brings the agent to that pitch of perfection that its whole remedial power is developed, and acts so mildly and efficiently that it cures at once. This paper is gravely and seriously answered by Dr. Böhm, a practising homœopath in Vienna, in "*the Austrian Homœopathic Journal*," and after this fashion is "the system advancing to its perfection!"

In strict accuracy, the extravagance of Dr. Grosse is only to an infinitesimal extent greater than that of Hahnemann and his followers: both, therefore, are to be judged of by the same rule. We confess we cannot understand the constitution of that mind which would seek for any practical application of what may possibly involve (as has been alleged) "an ingenious process of ratiocination," but must at once confound all human experience.—*Address to the Medico-Chirurgical Society of Edinburgh*.

HÆMOSTATIC POWERS OF SHEEP'S BRAINS.

IN the report of the proceedings of the Academy of Medicine, on the 17th of June last, the following occurs:—M. Dupuy directed attention to a hæmostatic power of great efficacy, recently proposed by him. The cerebral matter of the common sheep possesses, in a very high degree, the property of coagulating blood, and of immediately arresting hæmorrhage. M. Dupuy made the following experiment:—A solution of cerebral matter was injected into the crural vein of an animal, and death took place in a few minutes. I had predicted that the blood would be found coagulated in the heart and great vessels, and such was found to be the case on examination; the experiment was witnessed by MM. de Blainville and Rousseau. *Sheep's brain kills animals more rapidly than even corrosive sublimate*. You are all aware that the bichloride of mercury coagulates the albumen; an analogous effect is produced by cerebral matter. It appears to me that surgeons might usefully avail themselves of the knowledge of this fact.—*Dublin Journal of Medical Science*.

Medical Intelligence.**MIDDLESEX HOSPITAL.**

A PARAGRAPH, professing to proceed from the medical officers of the Middlesex Hospital, has been published in some of the daily journals. We are authorised to state that this paragraph is a fraud upon these gentlemen, and has been repudiated by them. They in no way participate in the statements and sentiments of the writer, whose object appears to have been to prejudice the medical officers in the minds of the governors, a meeting of whom was appointed to take place on the day following the publication of the advertisement. The author could not be traced, as it was found, on inquiry at the printing-office, that the paragraph had been copied in a female handwriting. We cannot too strongly condemn this unfair and unprofessional attempt to injure the medical officers of a public institution.

SANITARY ASSOCIATIONS.

A SANITARY Association has recently been established at Newcastle-upon-Tyne, the objects of which are as follows:—

1. To diffuse among the inhabitants of this district the valuable information elicited by recent inquiries, and the advancement of science, as to the physical and moral evils that result from the present defective sewerage, drainage, supply of water, air, and light, and construction of dwelling-houses; as also from the practice of burial in towns.
2. To correct misconceptions as to the expense of the requisite measures, and to remove groundless apprehensions as to their interference with existing pecuniary interests.
3. To point out the most effective and economical means of removing these evils; to state the cost of ventilating and other contrivances, and where they can be obtained, and seen in operation.
4. To impress upon the working classes, by every available means, the injurious influence exercised upon their health and moral condition by bad ventilation, deficient exercise, and the neglect of cleanliness in their persons, houses, and workshops.
5. To endeavour to obtain some better means than at present exist for the investigation of the causes of disease in any locality, and for the more effectual protection of the public by the prompt removal of those noxious causes which are proved to be removable.
6. To collect information as to the nature and extent of any such local causes of disease; to investigate the physical condition, and promote the physical comfort of the working classes; and to watch over the health of these towns and the adjacent districts.
7. To co-operate with the London and other Health Associations in obtaining the enactment, and facilitating the application, of sanitary measures.

BRITISH LYING-IN HOSPITAL.

DR. DAVIES has been elected Consulting Physician to this Charity, Dr. Robert Lee Physician-in-Ordinary, and Mr. Benjamin Brookes Principal Surgeon.—*Lancet*.

NATIONAL INSTITUTE OF MEDICINE, SURGERY, AND MIDWIFERY.

A MEETING of the members of the National Institute was held at the Hanover Square Rooms on the 13th inst. The meeting was well attended, a large number of the members both metropolitan and provincial being present. The object of the meeting was to create a friendly intercourse among the members. The meeting was addressed by the President, Mr. Pennington, in a speech which set forth the objects of the National Institute, and the desire of its members to obtain an incorporation of the General Practitioners.

RANK OF MEDICAL OFFICERS IN THE AMERICAN NAVY.

THE following is a copy of a "General Order" regarding "relative rank" in the medical department, recently issued to the American navy by the late chief of its executive, Mr. Bancroft:—

"Surgeons of the fleet, and surgeons of more than twelve years, will rank with commanders.

"Surgeons of less than twelve years, with lieutenants.

"Passed assistant-surgeons, next after lieutenants.

"Assistant-surgeons not passed, next after masters.

"Commanding and executive officers, of whatever grade, when on duty, will take precedence of all medical officers.

"This order confers no authority to exercise military command, and no additional right to quarters."

The above important order, so gratifying to the medical body in the United States' navy, has been obtained through the instrumentality of Dr. William Maxwell Wood, now surgeon of the fleet in the Pacific, who has also been the means of obtaining many other gratifying orders tending to improve the condition and standing of the medical gentlemen employed in the American service.—*Times*.

THE SALE OF POISONS—THE CASE OF CATHERINE FOSTER.

THE woman Catherine Foster, who has recently been convicted and executed at Bury for the murder of her husband by poisoning a dumpling with arsenic, stated in her confession how and where she procured the poison. The reader will observe with what facility this deadly instrument of murder

was procured from a chemist's "young man." The death of the husband, and the conviction and execution of the wife, may be clearly traced to the unrestricted sale of arsenic. But it is better that these secret and diabolical crimes should be committed, than that the means of destroying rats and mice should be taken away from the community! Such is the inference we are compelled to draw, from no attempt being made by Government to put restrictions on the sale of poisons, especially of arsenic. On the smallest average, there are in this country at least three hundred (unnecessary) deaths from this poison; but, as if there were not already enough for the use of criminals, the Government included arsenic in the new tariff, so as to give increased facilities for its importation!

We have, however, another motive for alluding to this case. The sophistical character of the defence made by counsel on this occasion, is put in a very strong light by the confession of the prisoner. It is often considered a great point in the defence if the prosecution fails in tracing the *possession of poison* to the accused person. Let the strength of such a line of argument be judged by the following extracts:—

Speech of Counsel for the Defence.

"A large quantity (of arsenic) was proved to have been taken. *How could she get it into her possession?—what opportunity had she for purchasing it?* If she had bought it at Melford or Sudbury, the nearest large places to Acton, *evidence could have been easily brought to prove the fact*; and, when at Bury, it did not appear that she was left a single moment. If purchased at Pakenham, proof could easily be given, but none had been forthcoming. If she bought it, it must have been after marriage (i. e. *within three weeks*), as she could have had no motive previous to marriage for removing Foster. Again, *no proof had been given of any possession of arsenic by her.*"

Confession of the Prisoner.

"I am sorry to say I bought the poison at the shop of Mr. H. Ely, *chemist, of Sudbury, three days* before I mixed it up in the dumpling which I gave to my husband. *It was served to me by a young man in the shop.* Mr. Ely was not present. Had he been present, he would have known me, as I had been frequently at his shop for my mistress when I was at service."

* * * Possibly Mr. Ely, the Sudbury chemist, may not have known that the arsenic was purchased at his shop! But where was his "young man," who had sold arsenic to the prisoner only *three days* before the murder, and who nearly allowed justice to be defeated on a false plea by not coming forward to acknowledge the fact?

A NEW BAROMETER.

Dr. ROXBURGH has lately contrived to combine in a most ingenious way the mercurial and water barometers, so that the compound instrument has all the delicacy of action of the water barometer, the scale being about eight feet long instead of thirty-two feet. This is accomplished by placing the water on the mercurial column,—the mercury, at about the height of variation (twenty-seven inches) being received into a capacious bulb or globular vessel (about six inches in diameter). The mercury fills the lower third of this vessel, while the upper two-thirds are filled with water. The tube rising from the vessel is about half an inch in diameter, and about five feet in length, leaving a great space for the Torricellian vacuum, which is here filled with aqueous vapour. As the rising and falling of the mercury take place within the globe, it follows that a large quantity of water is displaced by the slightest difference of pressure. One inch rise in the mercury is equal to a foot in the water column; hence, a change of the 100th part of an inch is plainly perceptible to the eye. This compound barometer is so sensitive to changes in the pressure of the air, that the shutting of a distant door, or the moving of the hand over the open mercurial basin, makes a perceptible difference in the water-level. The tension of the aqueous vapour, as affected by temperature in the Torricellian vacuum, is reduced to a certain compensation by a table.

THE JACKSONIAN PRIZES OF THE ROYAL COLLEGE OF SURGEONS.

At the last meeting of the Council of the Royal College of Surgeons the prizes founded by the late Mr. Samuel Jackson were awarded to Mr. T. Callaway, junior, of Wellington Street, London Bridge, for his Dissertation on Luxations and Fractures of the Clavicle, Scapula, and scapular end of the Humerus, and Treatment; and to Mr. Edward Hulme, of Exeter, Devon, for his Dissertation on Asphyxia, its various Causes, Forms, and Treatment.

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted members on Friday, April 14, 1847:—Messrs. P. A. La Fargue.—W. Yonge.—F. Moore.—S. Wilks.—H. R. Rump.—T. Webb.—J. E. Ellerton.—E. Adams.—W. D. Michell.—D. Hughes, and C. Munday.

Wednesday, April 21:—H. B. Gibbon. A. Ferguson.—J. V. Hughes.—J. Harwood.—J. S. Pearce.—W. P. Shipton.—W. M. Fairbrother.—R. D. Harris.—J. E. Gannon.—W. H. Sproston.—J. L. Cotter.—G. Fry, and J. T. Champion.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination, and received certificates to practise, on Thursday, 15th April, 1847:—
 Frederick Freeman Allen, Market Harbro', Leicestershire.—William Palmer, Rugeley, Staffordshire.—William George Harvey, Penzance, Cornwall.—William Mott.—William Ellis Hambly, Kingrand, near Plymouth.—Abraham Jubb, jun., Halifax, Yorkshire.—William Price, Wrexham, Denbighshire.—Edward Haycock, London.—William Alexander Bryden, Wadhurst.

OBITUARY.

DR. THOMAS BEVAN.

WE regret that we have this week to announce the death of Dr. Thomas Bevan, a physician well known in the medical circles of the metropolis. He died at his residence in Finsbury Circus on the 19th inst., in the 44th year of his age.

MR. MACLURE.

ON the 13th inst., at his residence in Harley Street, William Maclure, Esq. surgeon, aged 56.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer	29.61
" " Thermometer	47.9
Self-registering do. max. 73° min. 29°	
" in the Thames water — 46.5 — 43.3	
a From 12 observations daily. b Sun.	

RAIN, in inches, '13: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 2° below the monthly mean (49.9°).

BIRTHS & DEATHS IN THE METROPOLIS
During the week ending Saturday, April 10.

BIRTHS.	DEATHS.	Av. of 5 Spr.
Males.... 776	Males.... 527	Males.... 468
Females.. 713	Females.. 524	Females.. 446
1489	1051	914

DEATHS IN DIFFERENT DISTRICTS.

(34 in number;—Registrars' Districts, 129.
 Population, in 1841, 1,915,104.)

WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326)	172
NORTH—St. Marylebone; St. Pancras; Islington; Hackney .. (Pop. 366,303)	184
CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London .. (Pop. 374,759)	184
EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar .. (Pop. 393,247)	219
SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich .. (Pop. 479,469)	202
Total	1051

CAUSES OF DEATH.

	1841	1842
ALL CAUSES	1051	914
SPECIFIED CAUSES	1049	909
1. Zymotic (or Epidemic, Endemic, Contagious) Diseases ..	174	166
<i>Sporadic Diseases, viz.—</i>		
2. Dropsy, Cancer, &c. of uncertain seat ..	98	99
3. Brain, Spinal Marrow, Nerves, and Senses ..	174	158
4. Lungs and other Organs of Respiration ..	344	275
5. Heart and Bloodvessels ..	47	29
6. Stomach, Liver, and other Organs of Digestion ..	87	70
7. Diseases of the Kidneys, &c. ..	13	8
8. Childbirth, Diseases of the Uterus, &c. ..	13	10
9. Rheumatism, Diseases of the Bones, Joints, &c. ..	16	8
10. Skin, Cellular Tissue, &c.	4	3
11. Old Age ..	54	57
12. Violence, Privation, Cold, and Intemperance ..	25	26

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	16	Convulsion	45
Measles	12	Bronchitis	81
Scarlatina	16	Pneumonia	72
Hooping-cough ..	46	Phthisis	126
Typhus	43	Dis. of Lungs, &c. ..	19
Dropsy	14	Teething	11
Sudden deaths ..	15	Dis. Stomach, &c. ..	10
		Dis. of Liver, &c. ..	10
Hydrocephalus ..	40	Childbirth	10
Apoplexy	28	Dis. of Uterus, &c. ..	3
Paralysis	23		

REMARKS.—The total number of deaths was 137 above the spring average. The mortality from hooping-cough is slightly on the increase.

NOTICES TO CORRESPONDENTS.

We are obliged to Dr. Fairbrother for the sketch of the apparatus used in the case of Mrs. Parkinson. We have not, however, considered it necessary to put it into the hands of the engraver.

We have to thank a correspondent for the report of the trial of a person at the Bolton Quarter Sessions, for unlawfully practising as an apothecary. The large accumulation of matter in type has compelled us to delay its insertion.

We recommend "Hora" to consult Dr. R. D. Thomson's late work, On the Food of Man, &c.

Mr. Davey on the value of the Ether Apparatus in our next, as also the letter of A.

Our number was quite filled before Mr. Barnes's paper reached us.

We beg to acknowledge the receipt of a communication dated West Flanders from a foreign correspondent, whose name is perfectly illegible.

Mr. J. Jackson's letter will be inserted.

Received—Mr. Whittle; *Whitmer's European Times.*

Lectures.

INTRODUCTORY LECTURE

TO A

COURSE OF SURGERY,

Delivered in the years 1846 and 1847,

By BRANSBY B. COOPER, F.R.S.

Surgeon, and Lecturer on Surgery at Guy's Hospital.

GENTLEMEN,—It would be unwarrantably hasty to commence this course of lectures by plunging at once *in medias res*, without making some few preliminary remarks upon the importance of the profession which, I have no doubt, you have all here present voluntarily chosen.

That the pursuit you are about to embrace ranks highly, there needs no other proof than the fact that philosophers and philanthropists of every age have alike employed their genius and labours in its advancement—confident that the highest qualities of the human mind could in no way be more usefully employed than in the improvement of a science which proposes as its objects the physical perfection of the human species.

The whole community seek your assistance. The monarch and the peasant equally implore your aid. The state moreover claims the advice of the scientific medical professor. The juror requires his knowledge to guide his own judgment when life and death are at stake. The soldier and sailor look to him for succour when the battle's rage has ceased: whilst the minister of religion, and the soother of physical pain, unite in their last office to the dying sick. In former ages the miseries which flesh is heir to had no hope of alleviation but from the hand of chance, or from the more dangerous experiments of the empirical pretender. Our science is now, however, immovably based upon a foundation of philosophical deductions, and its laws are proved in a great degree by experimental demonstration.

I need no longer dwell, therefore, upon the advantages and honours which await those who by mental exertion, culture, and discipline, render themselves competent to extend the benefits arising from their intellectual acquirements towards suffering humanity. They will obtain blessings which are glorious as the object at which they aim is glorious.

I shall therefore at once, gentlemen, endeavour to explain to you the legitimate means by which you may obtain the neces-

sary knowledge to prosecute the task you have undertaken; and with a sure promise of success, if with just motive, and firm resolution, your course of study be but steadily and diligently pursued.

Above all things, remember how completely the attainment of knowledge depends upon yourselves. Not all the scientific institutions in the world, united for the one purpose of facilitating your advancement, can avail, unless you submit to labour and self-discipline. You alone can cultivate your own intellectual powers; you must reason, observe, and investigate. It may be laid down as a maxim, that there is no easy method of attaining eminence, no short cut to knowledge, and, as a great author has said, it is as unreasonable to hope to acquire wisdom without undergoing the necessary labour for its attainment, as it would be to expect that an acorn will become an oak without passing through the ordinary process of vegetation.

In fact, we build up our knowledge, augment our pleasures, and indeed perfect our nature, by struggling with and surmounting obstacles. There is nothing worth possession that it does not give trouble to attain; and this fact is equally applicable to the amusements and pleasures of life as to the more serious undertakings of business. Heaven's blessings are awarded only to the deserving. This, gentlemen, some of you may suppose to be a style of language dictated by, and suited to, the customary occasion of the annual address to pupils upon their first appearance at the schools; but I repudiate the charge—at least if it be thought that I utter these sentiments without a thorough conviction of the truth of their import. As the father of a family, I well know that your parents have a right to claim from me the best advice I can give you, and this is, that for the completion of the present object of your ambition—a thorough knowledge of your profession—you should seek it through the giver of all wisdom, without whose blessing and help study is fruitless and resolutions are unavailing.

Amongst the branches of medical science, that of surgery must ever be considered as one of the greatest importance: but do not for one moment believe that it consists merely in treating of the means which are employed in the performance of the various operations which are required for the removal or cure of diseases;—many antecedent considerations are required before you enter into this study. It must be remembered that surgery is not in itself an elementary branch of knowledge,—it is not a pure science, but an art, consisting in the use and application of scientific principles; it is, in fact, the practical application of physiology:

and indeed a precisely similar distinction may be made in many other departments of knowledge, for just as we speak of the art of surgery and the science of physiology so likewise may we speak of the art of engineering as distinguished from the science of mechanics. In illustration of this fact, in reference to our own profession, it must be acknowledged that there is not necessarily any science displayed in the mere administration of mercury, in the tying of an artery, or in the injection of a serous sac, as in hydrocele, for each of these means may have been employed purely on empirical knowledge, while the real science lies in the physiological principles which were brought to bear on those various instances of art, and dictated their necessity for the remedy of each evil for which they were administered. You might, therefore, as vainly seek to acquire and apply the resources of surgery, if uninformed in physiological principles, as to attempt to become an accomplished engineer while ignorant of the principles of mechanics. In the study of surgery there is a necessary division in the student's labours; before proceeding to the *art*, he must first learn the *principles* upon which it is founded,—the science which it professes to apply,—and in prosecuting this preliminary task he must remember that knowledge is slow in its acquisition, for it does not depend upon our senses which are quick, or upon our wishes which are boundless, but upon the order in which we trace the phenomena nature exhibits to us:—you must learn to distinguish the signs of health from those of disease. It is the object of the science of physiology to point out the conditions which regulate the healthy actions of the various organs; but physiology may be justly considered in a much extended sense, as including both anatomy and pathology, for with the present advance of knowledge in these sciences it is impossible to prosecute the study of either without calling to our aid the science of physiology. Anatomy, it is true, has been defined as the science of organization, treating of the structure and configuration of organized bodies, as geometry treats of the forms of unorganized substances; thus considering the body, in fact, as mere dead matter: while physiology recognizes man not only as an organized but as a living being, so pathology may be considered as the physiological study of diseased function or structure, or, so to speak, morbid physiology.

This vast science, then, which forms so indispensable a preliminary to the successful cultivation of surgery, may be defined for our purpose as the knowledge of form and function in the living body, in health and in disease. This science, (especially when not *dissevered* from the accessory studies of *zoology* and organic chemistry,) is as inte-

resting as it is comprehensive; the infinite wisdom which it reveals to us, the richness of contrivance in the adaptation of means to ends, the exquisite harmony of parts in the organized body, and the beneficent provisions for enjoyment which it enables us to trace,—all these are in themselves ample inducements to the study of physiology, and rewards for the labour which attends it. But there is a more urgent motive to impel the medical student; in addition to being one of the noblest and most beautiful of the sciences, physiology is eminently the most fruitful; her's are all the great triumphs of medicine; by her gifts it is that we acquire the means of measuring and interpreting symptoms, that we learn to prognosticate the stages of disease, to minister the healing resources of our art, to assuage the intensity of pain, to prolong the duration of life,—*ah!* and even to lessen the bitterness of death.

Health is universally felt to be the greatest of all earthly blessings; it is in every condition and degree of society the sweetener of existence; if such be its value, never so truly or justly estimated as by its loss, how important a share of the attention of the community should the members of that profession claim who labour for its preservation!

There are other branches of study, which are, of course, antecedent to that of practical medicine and surgery, but are of less extent than that just alluded to: not that I would wish to speak in any disparagement of the sister sciences, so essential to the cultivation of surgery, but still, in reference to the extent of knowledge of them necessary to the practice of our particular art, they must be considered as secondary to physiology. I am alluding to the study of *materia medica*, with as much of chemistry and botany as may suffice to explain the natural history of the medicines employed in practice.

If I might be allowed to look upon medicine as a system of *warfare* to be carried on against disease, I would illustrate the respective uses of these sciences by saying, that, as anatomy and physiology furnish you with the chart of your enemy's country, so the lectures on the *materia medica* prepare you for invasion, by teaching you to handle your weapons, and by initiating you in their use. If you doubt the importance of these various preliminary studies in the cultivation of surgery (and more especially of physiology), just pause for a moment to contrast the state of it as a science in the present time with that prior to the period of John Hunter. It was he who investigated, and not with common zeal or assiduity, the phenomena which resulted from any disturbance to the natural functions of a living animal; and the knowledge which he derived from these studies he applied to the improvement of the art of surgery. By his physiological

researches he detected many fallacies, and made many important discoveries in the treatment of disease. It was he who first explained the doctrines of inflammation, and ascertained that the results of inflammation—viz. those of adhesion, suppuration, ulceration, and even death, or mortification of the part—were so many attempts of nature to restore the injured surface to a healthy action. He first discovered, that, if the tissues of a living animal became the subject either of accident or disease, the blood of the part became reciprocally acted upon, and underwent a change necessary to the restoration of that part. He probably was led to this inference from having observed the change in the blood-vessels during the periodical growth of the deer's horn, and during the development of the reproductive organs of certain animals at the breeding season. From these facts he was led to consider the blood to be actually a living fluid; and upon this knowledge he founded his principles of practice.

These physiological and philosophical views of disease led him deeply to investigate nature's processes, and efforts at restoration, and to study how to assist her in her object. In the practice of surgery, whenever operations proved inadequate to their intention, he investigated the causes of the failure, and attempted to remedy the defect by some other mode of procedure. From experiments happily selected and carefully conducted, he drew his scientific deductions, and thus ascertained the means of improving many surgical operations. He ascertained the cause of failure common to all the operations in use for the radical cure of hydrocele, and was enabled to propose a mode attended with almost invariable success. But perhaps the greatest improvement which he made in the practice of surgery was the adoption of his own view of placing a ligature on the femoral artery high up in the thigh, instead of opening the tumor in the ham.

Think for a moment, gentlemen, and consider the scientific researches he must have made in the compensating powers of nature, before he could have dared to attempt so bold and novel a step; but the efficacy of the method has been fully established, and the same plan has ever since been extended to all operations for the cure of aneurism.

Of mere manual dexterity, and the mode of performing operations, Mr. Hunter has written but little: in fact, he has seemed to consider the operative part of our profession rather as an opprobrium on the science of surgery, and thus indicating how much more highly he estimated the administration of constitutional remedies, than the application of mere mechanical adjustments.

"Surgery," said Mr. Hunter, (I believe in the very first introductory lecture he gave in his surgical course,) "consists, in my opinion, in the curing of a disease, rather than in the removal of it by mechanical means. But generally so differently is it thought, that the surgeon who gives most pain and performs most operations is now-a-days thought the most of." Might I not express the just fear that even now at the present moment there is more zeal evinced by pupils in their attendance in the operating theatre, than in watching the progress of the removal of a disease, or rather, I should say, the restoration of a patient's health by the slower means of medicinal and dietetic remedies? But, as the constitution of man is not always equal to the task of the cure of disease, even with the aid of medicine, surgical operations must sometimes be had recourse to, and it is most proper that the mode of performing them should become a subject of the student's attention. To attain even this mere manual dexterity necessary to the art, much labour is required; for no operation, however simple, can be safely undertaken by any one unless he possess a knowledge of anatomy: anatomy is, in fact, the ground-work of all operative surgery; and it has been ever found that the great misfortunes which have occurred during operations have resulted from the ignorance of anatomy in the operator. Notwithstanding the dislike Mr. Hunter had to the performance of surgical operations, still there were ample instances of his skill at St. George's Hospital, where he has performed all the principal operations of surgery with a dexterity inseparable from his thorough anatomical knowledge.

Having shown the relation which surgery bears to other branches of medical knowledge, and having illustrated this union by referring to the later history of our profession, and especially to the career of its most eminent cultivator, I might justly enough point out the impossibility of recognising the *distinction* which is attempted to be made in the practice of the medical profession. The limits between physic and surgery cannot be precisely marked, nor the respective functions of the physician and surgeon accurately defined. A knowledge of physiology, comprehending healthy and morbid anatomy, are as essential to him who intends to practise physic as to him who exclusively devotes his attention to surgery.

How is the distinction to be drawn between *surgical* and *medical* practice?

Physic is said to have for its object the treatment of internal, *surgery* that of external diseases; so that it is the province of the physician to prescribe for internal diseases, such as fevers, and disorders of the

cavities not depending on injuries, or requiring operation for their cure,—while it becomes the duty of the surgeon to treat all mechanical injuries, and to perform all the operations which are adequate to remove diseased structure.

But the most superficial acquaintance with the progress and termination of the various diseases to which the human frame is liable, must be sufficient to convince any one of the impropriety of the distinction.

Every day we see in this hospital the use of internal remedies is required for those diseases which are regarded as strictly surgical, as well as the frequent necessity for the manual dexterity of the surgeon in those cases under the care of the physician.

In illustration of these remarks, let me bring forward some examples of intermediate cases, which it is impossible to classify and to apportion justly to either the physician or the surgeon, if each is to adhere to the prescribed laws of distinction.

How often does it occur that during the progress of a typhus fever,—a case, confessedly, of the most purely *medical* nature,—a sloughing of the nates, or a retention of urine, supervenes and aggravates all the dangers of the case. Here a physician must either call in the assistance of the surgeon, or himself relieve his patient from this accumulation of suffering.

Again, when the compound fracture of a bone has generated, as it must do more or less, irritative fever, is the surgeon to be considered encroaching on the duties of the physician, and travelling out of his own path, by treating these constitutional symptoms? Certainly not; or how is either the physician or surgeon to be considered competent to treat cases of everyday occurrence, unless they practise in couples, or are constantly within hail of one another?

The proof of the necessity of the combination of physic and surgery in the same individual is well established by the necessary occupation of our country practitioners, who are constantly treating both local and constitutional diseases.

In fact, constitutional and local diseases are so constantly merging into each other as to be but rarely separately present; and how can it be otherwise, when we consider that all the parts of the body are dependent on one common centre, and owe their vital endowments to a common source? That common centre or source of power is what we generally understand by the *vital principle*; and between it and the various organs and subordinate functions of the living body there is such close sympathy, and constant reciprocation of influence, that no local affection can continue for any length of time without involving general derangement in

the constitution: and, again, no disturbance of the constitutional balance can exist without entailing various local disorders.

In fact, the circumference partakes of every commotion of the centre, as the centre is affected by every impression at the circumference; so that from the reciprocal action between the centre and circumference there are but very few diseases purely local or purely constitutional.

Those two functions by which every part of the system is rendered thus dependent on a common centre are *nutrition* and *innervation*, any disturbance of which immediately involves either constitutional or local disease, so that the necessity for either medical or surgical treatment arises from the same cause.

When the centre is primarily affected, it may be generally said that a functional disturbance is indicated, to an extent of deviation from the natural standard which is best appreciated by the physiologist; and that when the circumference is the subject of disease, it is considered that the structural change falls under the just attention of the anatomist. But these are very frequently combined; there is never structural disease without some disorder of function, or continued functional disease without some change of structure.

Inflammation itself is nothing more than an altered form of vascular nutrition; but as the perfection of that function depends equally upon the integrity of the blood, the condition of the blood-vessels which convey that fluid, and the tissues which they penetrate, it is evident that a clear idea of the phenomena of nutrition must be understood before the symptoms resulting from inflammation can be appreciated.

You will understand from these remarks that there is much more to be learnt for the practice of the art of surgery than the mere performance of operations; the far more difficult question has first to be solved, whether an operation will relieve, and whether nothing else can. We should also be assured that the patient has sufficient constitutional powers to bear the required operation—a circumstance not unfrequently difficult to judge of. Therefore, before the slightest operation be performed, the state of the patient's general health should be the subject of the closest investigation; and with this precaution even we may err.

Hunter said that "the facility with which a man thinks gives him the preference over another person;" and perhaps he might have added, and the readiness with which he can recal his thoughts, so that he may apply them appropriately when urgently required.

It is this which constitutes a good surgeon; and it will be my endeavour to lay before you such principles and facts connected with

your profession as may furnish you with materials for *practical* use. The term practical must not be misunderstood; it is not intended that you should be slaves of routine, and content yourselves with a mere empirical statement of the usefulness of a particular *recipe* in a particular disease, without caring for the rational explanation of its influence, or endeavouring to trace the intermediate links of cause and effect; but it is intended that all the knowledge here given should be such as admits of being readily converted into use and application. That our views of the nature and treatment of diseases should not be those which arise in the dreams and guesses of speculators, but such, and such only, as force themselves upon the mind of the thoughtful observer, as the result of long intimacy with disease. Such, in a word, as arise at the bed-side, and may, for that very reason, be safely carried there again.

A few words, gentlemen, further, as to what is required of you to enable you to attain sufficient knowledge to entitle you to practise your profession. Of all things industry and zeal are the most essential requisites; and however determined you may now be, gentlemen, to act up to this conviction, you will find that it requires great exertion to maintain a continued state of vigilance, with a constant anxiety to acquire knowledge, and to keep in due control the more lively and more agreeable flights of imagination. But such normal discipline may be acquired by a just appreciation of the importance of the position you are anxious to attain in society, and the usefulness of the occupation in which you are employed. You must also remember that a proficiency in knowledge, to qualify yourselves as eminent surgeons, will not alone ensure professional advancement; you must render yourselves worthy to be beloved as men, as well as respected for your scientific endowments. Of moral qualities all men are competent to judge, or at least to estimate in others even if they have not themselves the self-denial to have attained them. Depend on it, virtue is the sure guide to prosperity: learn, then, but to deserve it, and you may look upon success as certain, even although some difficulties may cross your path in its attainment.

TYPHUS FEVER IN FLANDERS.

INTELLIGENCE from Gulleghem announces that typhus fever is prevailing in that part of Flanders in a very malignant form. Eight or ten persons were attacked daily. Out of 3612 inhabitants, 450 are labouring under the disease, and 316 of them were at the point of death.

A COURSE OF LECTURES ON DENTAL PHYSIOLOGY AND SURGERY,

Delivered at the Middlesex Hospital School,

By JOHN TOMES, Esq.
Surgeon-Dentist to the Hospital.

LECTURE XII.—*continued.*

Partial inflammation of the pulp.—Hitherto I have been speaking of inflammation of the whole body of the dental pulp, and especially when occurring with the pulp-cavity unbroken, or rendered entire by stopping. We now come to consider inflammation of the pulp, induced by exposure, from the removal of a portion of the parietes of the dental cavity by caries or other causes. You have learned that when the cavity is entire, inflammation attacking the pulp generally becomes acute, and implicates the whole substance of the organ. The same may occur where the pulp cavity has been gradually laid open by decomposition of the dentine, and the disease may follow much the same course as it would have done had the cavity been entire. It is far more common, however, to have chronic inflammation of that part which is exposed; and we must now devote a little time to the consideration of such disease so occurring. The immediate result of partial exposure of the pulp to the action of the fluids that occupy the mouth is increased vascularity, and the establishment of more or less discharge from the exposed portion, the morbid action being frequently unattended with pain. If a tooth in this state be plugged, though the operation itself be so managed as to give no pain, yet inflammation will generally come on within a short time and destroy the pulp; the active disease arising, as I conceive, from the discharge being confined. Exposure of a very limited extent of surface may exist for a long time, and give but little or no inconvenience; sudden changes of temperature will, however, give a transient twinge of pain: sweets, or any soft food, as bread, when forced by mastication into the cavity, will occasion pain till their removal. This state may continue for an indefinite time, but, sooner or later, the pain instead of ceasing with the removal of the immediate cause, continues for an hour or two, then ceases, and again returns on the application of any fresh cause of irritation: or the pain may be less severe and more continuous. More rarely the diseased pulp becomes the seat of extremely severe shoots or darts of pain, occurring twice or thrice in a minute, or even more frequently, with intervals of perfect ease. I remember

one case of this character in which the agony was so great that the patient was bathed in perspiration till the tooth was removed. You may meet with patients who will tell you they have had a grumbling toothache for a month; others again say that they dare not take hot or cold, or sweet or acid fluids, lest they should provoke an attack of pain in a susceptible tooth. When the pain is continuous the cause is sometimes found to be an acid state of the saliva. If a tooth in this condition be extracted, and the pulp examined, an inflamed patch opposite the seat of exposure, with a few nodules of dentine in the substance of the organ, is generally all that is found. It is in this state of the pulp that the various odontalgic remedies may be effective.

As the decomposition of the dentine progresses, the extent of exposure of the pulp increases, and hence the disease, and consequent liability to pain, also advances, till at length the whole cavity is laid open, and the pulp is either gradually absorbed with the progress of the caries, or is destroyed by ulceration or gangrene, or more rarely may become the seat of morbid growth; this latter event constituting a peculiar disease. I shall presently speak of it at more length.

If the pulp be removed by *absorption*, the rate of progress will be partly governed by the situation in which exposure has commenced. If the masticating surface of a molar tooth has been destroyed, the body of the pulp will be removed so soon as the aperture into its cell is large; while the processes of pulp occupying the fangs will retain their vitality, and the exposed parts their diseased condition. If the opening has been made in any other than the masticating surface, the pulp being less liable to injury retains its bulk for a longer period, and frequently suffers but little from absorption till it is exposed on two surfaces. Thus, if caries opens the pulp cavity, on the anterior surface of a molar tooth, absorption of the pulp will not commence until a portion of the masticating surface is also destroyed. Again, the process having commenced, the whole of the pulp may be absorbed, or only that portion which occupies the body of the tooth.

If *gangrene* supervene upon inflammation, the whole, or only part of the pulp, may be destroyed. Not uncommonly the part contained in the body of the tooth is alone gangrenous, while that occupying the fangs for a while retains its vitality. In the latter case, I should tell you that there is little or no cessation of pain, such as happens when the whole of the pulp has been at once destroyed.

If the pulp be attacked by *ulceration*, a considerable portion may speedily be lost, or the destructive action may be arrested

when but little of the pulp has been sacrificed, leaving a healthy granulating surface. The ulcer is generally excavated, has a yellowish coloured surface, and so long as the ulcerative process exists is attended with constant pain. The specimen on the table is a good example of this condition of pulp.

Symptomatic pain in various parts of the head and face, and even of the neck, are amongst the occasional consequences of partial inflammation of the dental pulp. If the pain in the tooth be violent and long continued, slight general disturbance, evinced by fever and restlessness, is produced.

What has been said of symptomatic affections consequent on other dental maladies applies also to those that spring from inflammation of the pulp.

Treatment.—Partial and chronic inflammation consequent on exposure, is almost the only disease of the dental pulp that admits of successful treatment, short of extermination of the whole organ. But even here the difficulties that stand in the way of cure are so numerous, and require such a length of time to overcome, that the result, it must be acknowledged, is very uncertain. The aperture into the cavity is frequently so small that the remedial agent either does not come in contact with the pulp at all, or else with so small an amount of the inflamed surface, that it produces no useful effect. Then, again, we are frequently quite unable to tell the character and extent of the disease—whether the exposed surface be in a state of acute or of chronic inflammation, whether it is pouring out serous fluid or pus, or whether there be ulceration, or whether there be only irritation, the difficulty arising either from the smallness or the unfavourable situation of the carious opening in the tooth. Hence we often prescribe at random. When, however, we can get at the seat of the disease, and our patient will persevere in the use of likely remedies, we may generally, by one means or another, restore the tooth to a state of usefulness, and after a while repair the loss sustained in the crown by a metal plug.

I have told you more than once that the pulp, as disease pursues its way through the dentine, makes an effort to protect itself by forming new dentine in the direction towards which the caries is advancing, and would thus defend itself from exposure by caries, just as it does from exposure by the wearing away of the crown, but that the process by which the protective barrier is formed usually advances much more slowly than that by which the dentine is destroyed. Hence the pulp is laid bare before it has had time to form for itself a new covering. In some cases, indeed, (and especially those in which

decay has advanced rapidly) no protective effort seems to be made. A few days since, I examined several partially inflamed pulps, taken from the teeth of young patients, in neither of which could I find a single nodule of dentine. The pulps had been exposed by a very small aperture rapidly produced, and were highly inflamed over a surface about as large again as that exposed. The redness was greatest at the exposed point, and from thence, decreasing, was gradually lost in the healthy pulp, not one-tenth part of the body of which was affected, although the pain which led to the extraction of the tooth had been severe and lasting.

Had it been desired, or could the patients have devoted sufficient time to the restoration of the teeth (which our hospital patients unfortunately cannot do), the treatment indicated would be—First, to relieve the pain by some speedy means, and then to protect the pulp from unnecessary exposure by the use of some temporary and readily removeable plug; and we should at the same time apply agents which will stimulate without inflaming the surface. The stimulant used should be so modified as to produce an increase of healthy action, and not irritation. The latter effect would be followed by pain and inflammation, while the former produces an increase of function, and, in some cases, a resumption of an office naturally terminated, or unnaturally suspended. By this treatment we hope to induce a resumption of that action by which dental pulp is converted into dentine.

The treatment, then, resolves itself into two parts. First, the pain—the toothache—must be cured, and then the exposed surface of the pulp must be induced to calcify, or at all events must cease to be a secreting surface. The first point must be quickly gained, otherwise, by the extension of the disease to the periosteum of the fang, the case may become past our reach; while the second is necessarily, from the effect we desire to produce, extended over a considerable period.

The remedial agents at our disposal for working out the foregoing effects are both numerous and varied. I should fail were I to attempt to enumerate half those that have been proposed for the cure of toothache. There is scarcely a drug that has not been used, and with occasional success; and there is not one that does not frequently fail in producing the desired result. Again, the remedy which has been effective one day will not uncommonly totally fail in allaying an apparently similar attack of pain on the subsequent day. Hence we require variety in our remedies, and discretion in their use. The remedies themselves may be arranged into groups, in accordance with the manner in which they exert their effects. First,

remedies that produce their effects primarily upon distant parts, and secondarily upon the pulp, by correcting the state of some deranged organ. Thus, medicines that cure indigestion cure also toothache that has arisen out of indigestion. The same also may be said of rheumatism. You are well aware that where there is general derangement of the system the difficulty of curing a local ill is greatly increased. Hence, when carious teeth become painful in connection with dyspepsia, the stomach should be restored to health before the greatest chances of success can be gained.

In a second group may be arranged medicines that, by producing increased secretion in one organ, occasion a cessation of morbidly increased action in another. For the cure of pain and partial inflammation of the dental pulp, purgatives, sialogogues, and counterirritants, are the most useful agents to be derived from the class of revulsives. An active purge will not uncommonly abate an attack of toothache, especially if there has been constipation. A mustard-poultice, or ammonia, applied behind the ear will also be effective in some few cases, and may be tried with considerable hope when other remedies have failed, or are not within reach. Sialogogues are, however, far more useful than either of the preceding agents, and may be tried whenever the pain in the tooth or teeth is urgent. The precaution of previously plugging the cavity of the tooth should, however, always be observed, as those drugs which stimulate the salivary glands would also irritate the exposed surface of the pulp, and thus defeat our end. Pyrethrum acts perhaps more efficiently than any other agent of this nature. It is best applied by placing a small piece of the root (previously bruised) between the gum of the affected tooth and the cheek, where it should be retained until a great flow of saliva is established, or the toothache relieved.

Alkalies, or alkaline carbonates, form a third group of dental remedies. These are useful only in neutralizing acidity of the saliva about the carious opening in the tooth. I have known a very bad toothache cured by a bit of carbonate of soda dropped into the tooth. In all cases of pain in carious teeth, it is very desirable to ascertain, by the use of test-paper, whether the saliva be acid, or whether there be acid in the tooth. In either cases an alkali (and carbonate of soda is as good as any) should be used for neutralization.

In the *fourth group* may be arranged those agents which afford relief by abstracting blood from a neighbouring part. These are leeches and the gum lancet. A leech on the gum, or free scarification by the lancet, will sometimes relieve pain arising from inflammation of the pulp, although

much less frequently than when the pain has arisen from disease of the dental periosteum. When it is very desirable to preserve a tooth, and other less troublesome remedies produce no effect, blood may be taken from the gum; but it must not be promised that the application of a leech will certainly be followed by cessation of pain.

In the *fifth group* may be placed remedial agents which produce either a negative effect, by closing up the aperture into the pulp cavity, and thus guarding the pulp from the contact of extraneous matter, or a positive effect on the inflamed surface by direct application; or, in other words, *local remedies*. The materials of this fifth group may be again divided, in accordance with the manner in which they produce their effects. The first division includes those agents which act mechanically only; the second those that affect the diseased action or destroy the diseased part.

The mechanical agents for the cure of toothache produce their effect by guarding the pulp from contact with the oral fluids, and from whatever may be taken into the mouth; also from the contact of cold air, and from sudden changes of temperature: in fact, protect it from all external irritants. Whatever other treatment it may be necessary to use or to avoid, mechanical measures must always be taken to protect the diseased and naked pulp from the action of all other substances than those we desire to apply for its relief. The carious aperture must be plugged with some suitable substance—something that can be rendered so soft that it may be introduced into the tooth without producing pressure on the pulp, and, when so placed, will afterwards harden. The substances in most common use are beeswax, various resins, gutta percha, solutions of resins in alcohol, and cotton wool, or lint, or a combination of several of these. That which is generally employed, and is, perhaps, the best, consists of a piece of cotton wool impregnated with a solution of mastic in Eau de Cologne. The wool thus armed is lightly introduced into the hole in the tooth, either alone or after the introduction of some more active remedy. The spirit quickly leaves the mastic and unites with the saliva; the cotton and mastic then form a good firm temporary plug. This should be renewed once or twice in four-and-twenty hours. There are many similar combinations that will answer the purpose equally well. Gum copal dissolved in sulphuric ether may be substituted for the mastic and spirit. A temporary plug may, however, be made to serve a double purpose, by combining with the mastic an astringent or a sedative, and thus not only guard, but also produce some direct action on the diseased surface.

The remedial agents that directly act upon the disease belong to one of the following classes of remedies:—sedatives, escharotics, astringents, or stimulants.

Sedatives, when employed alone, are chiefly useful for allaying pain; when in combination with other drugs, for keeping down the tendency to pain. To subdue an attack of pain consequent on partial inflammation of the pulp after neutralizing acidity about the tooth (if there be any), sedatives may be used, with considerable hope of success. Almost any of the more powerful drugs of this class may produce the desired effect, or many or all of them may fail to afford relief.

Concentrated stimulants, you know, act as sedatives; and from these preparations we may frequently gain great help in assuaging toothache, even after other means have failed. Creosote, essential oils of cloves, cinnamon, and the like, alcohol, sulphuric ether, alum dissolved in nitric ether, and camphor, are a few of the many stimulants useful in the treatment of odontalgia. They may be offered alone or in combination with some of the more pure sedatives; such as opium in its various forms, hydrocyanic acid, chloric ether, aconite, and others of a similar nature.

Escharotics may be used in a diluted form, so as to destroy the surface only or they may be applied in a more concentrated state to kill the whole body of the pulp.

Most of you know that an ulcerating or a suppurating surface does sometimes become extremely sensitive and painful, and that immediate relief is obtained by brushing the surface of the sore with a weak solution of nitrate of silver. A similar condition, I apprehend, now and then obtains with the exposed surface of the dental pulp, for we occasionally find that a solution of nitrate of silver, gr. iij. or gr. iv. to the ℥j. of distilled water, will allay toothache after the failure of what at first seemed more promising treatment.

If, in spite of palliative treatment, the pain in the tooth still continues, and we have reason to believe that the disease has not extended from the pulp to dental periosteum, escharotics sufficiently powerful to destroy the body of the pulp may be used, and thus cut short the pain, by the destruction of the pained organ, without necessitating the loss of the tooth. Either of the mineral acids, potassa fusa, nitrate of silver, chloride of zinc, or arsenic, will answer our purpose wherever there is sufficient exposure of the pulp to allow of their efficient application. I have used each with success and with failure.

If the caustic employed be fluid, a small quantity may be placed in contact with the pulp on a bit of cotton, and retained by a

ON THE TREATMENT OF PARTIAL INFLAMMATION OF THE PULP.

plug of wax. If a solid be used, it will be sufficient to place a small particle in the cavity, and stop it in by a temporary plug. The pain, on the first contact of the caustic, is mostly increased, or, at all events, not diminished; but, if the destructive agent can be and is well applied, the pain quickly ceases.

Seven years since, I used rather extensively the chloride of zinc* for destroying diseased dental pulps, and, from the experience I then gained, I am led to consider it to be as good as any, if not the best, escharotic for that purpose. It may be applied alone or diluted with plaster of Paris, or combined with morphia, and placed upon the end of a temporary plug. The morphia is supposed to diminish the pain induced by the zinc.

The American dentists have for some time past been using arsenic to effect the same end, and, as they report, with great success. The arsenic is to be placed in contact with the pulp, and to be retained by a temporary plug. In the course of half an hour the pulp is destroyed, and is to be drawn out, and the cavity is to be immediately plugged with gold. In my hands the arsenic has oftentimes failed to produce the desired effect; and, had it been ever so successful, I should still have avoided its frequent use, because a very minute quantity accidentally swallowed, may produce serious gastric disease.

I think arsenic should be struck off our list of dental remedies, seeing that we have other escharotics that are just as effective in destroying the pulp, and which, if swallowed in the minute quantities we use, can work no evil.

By destroying the pulp, you necessarily produce necrosis of the inner portion of the tooth, and this is not very unfrequently followed by inflammation of the periosteum of the fang; hence the value of escharotics is much diminished. In the American Dental Journal you will find some papers on the use of arsenic, and others condemnatory of the practice, for the reasons I have stated. The actual cauterization has been recommended by some writers.

A friend of mine tells me that, when at Cambridge, he was dreadfully tortured with pain in a carious tooth, and that one day, quite worn out with suffering, he broke off all the prongs but one of a dinner fork; the remaining one he heated red hot, and in that condition thrust it forcibly into the hole in the aching tooth. The pain, he says, ceased in a minute, and that he has not, from that time to this, a period of nearly thirty years, had a single twinge of tooth-ache.

* Druiitt's Surgeon's Vade-mecum. Second Edition. Published 1841.

I have never in my own practice used the actual cauterization.

Mechanical means are sometimes used for destroying the pulp, and in a single-fanged tooth are effective. In a double tooth, the instruments cannot be got into the fangs, and, therefore, are not applicable. The method usually adopted is to thrust into the tooth a fine four or five-sided steel instrument, and when it has gone as far into the fang as it will go, to rotate it, by which action the pulp is torn across near its entrance into the tooth.

Mr. Wardroper, in a work written on the subject, recommends, in preference to extraction, excising the crowns of a carious and aching tooth, and thus destroying the dental pulp; and he does so under the belief that it is desirable to preserve even the fangs rather than lose the whole of the tooth. The excision of the crown is attended with almost as much pain as the extraction of the tooth would entail, and the left fangs are very liable to become the seat of disease, obliging their removal, thus necessitating a second operation when one would have done. For these reasons I cannot advocate the intentional adoption of Mr. Wardroper's practice. Should, however, the crown of a carious tooth be accidentally broke off where extraction was intended, and the pain then cease, the roots may be allowed to remain till their removal is more imperiously called for. Astringents and stimulants are especially useful in restoring the pulp to a state of health, or in exciting calcification preparatory to plugging the tooth. Sometimes, however, a vegetable astringent, such as tannin, will allay acute pain, and may therefore be employed with that view; when so used it acts best when combined with ether, or some sedative. This is not, however, the most valuable effect.

The pain in the pulp having ceased, mild stimulants or astringents should be applied regularly three or four times a day, and retained in the tooth by a temporary plug. By a steady perseverance in this treatment we have good reason to hope that the exposed portion of the pulp will be induced to calcify, or at all events cease to be a secreting surface, or else to become absorbed. Either point having been gained, the tooth may be permanently plugged. You must, however, before proceeding to plug, quite satisfy yourself that one of these conditions has been produced, otherwise your operation will be mischievous. This information you cannot always gain by inspection; you may, however, feel tolerably secure, if, on examining a temporary plug that has been retained for some hours, you find no evidence of discharge or of offensive odour, and if the cavity, after its removal, seems quite dry.

I have dwelt longer on the cure of tooth-

there being a dense, shining, pearly, white substance on a level with the pupil. He said, however, that he could distinguish light from darkness with this eye. In the right eye there was a central, deep-seated, slight opacity, and with it he could only see to find his way about, the eye being amaurotic. Vision had been impaired for the last four years, but he had never suffered any pain in either eye. The contraction and adhesion, and altered form and position of the pupil of the left eye, was, therefore, as in Case III., the result of a very chronic form of iritis.

June 10th.—I operated by making a semicircular section of the lower half of the cornea, close to its circumference. The lens, almost of its normal transparency, was forced through the iris by the contraction of the recti, the laceration leaving a good-sized pupil. The iris appeared much thinned at its centre, so that it opposed but little resistance to its rupture. The opaque anterior half of the capsule, which was firmly adherent to the uvea, I extracted with forceps.

11th.—There has been no pain in the eye: the pulse 60.

14th (four days after the operation).—On opening the lids the conjunctiva was found very little injected, the cornea slightly nebulous, and the wound in it appeared united. The artificial pupil was large, and nearly circular, extending from the centre of the iris downwards and inwards.

Nine days after the operation the cornea had become perfectly transparent, the pupil a bright black, but the patient could only distinguish (*i. e.* with the left eye) the window from the wall, or recognise the light of a candle.

July 13th. — The patient left the hospital, having suffered no inflammation of the eye operated on, and its vision improved, so that with it he could distinguish large objects, and best in a moderate light.

Dec. 28th.—Rather more than six months after the operation I found the pupil a clear bright black, and unchanged in form and size. It is represented in the subjoined figure.

Vision had improved but very little; he could recognise a finger held before his eye, and could see objects best



when held to its temporal side, so that the nasal half of the retina was most capable of receiving impressions. The cornea and humours of the eye remained perfectly transparent, and therefore the nervous apparatus was mostly or wholly in fault. He would probably, having lost the lens, have seen much better with proper cataract glasses.

In this case an artificial pupil, of excellent form and size, and well placed, was formed by the mere rupture of an atrophied iris, the rupture being caused by the expulsion of the lens on the completion of the section of the cornea; and the objects of the operations for extraction of cataract, and for artificial pupil, were as fully accomplished as if the patient had regained the most perfect vision: for by these operations we can do no more than remove the obstructions to the passage of light towards the fundus of the eye.

CASE V.—Operation for artificial pupil by separation of the iris from the corpus ciliare, and by excision of a portion of it (Iridectomedialysis).

David Henning, æt. 43, was admitted into hospital, May 31st, 1845. The pupil of the right eye was much contracted and adherent, and there was a dense opacity seated in the centre and in the upper half of the cornea. Vision of this eye had been almost lost for the last eight months, which state had been preceded by severe pain in the eye and forehead, and by great inflammation of the former. The left cornea was slightly opaque in its centre, and the sight of both eyes so imperfect for nearly two years, that during this period he had been unable to work. Both eyes were now free from inflammation.

June 10th.—I operated by making a small horizontal incision through the middle of the cornea, opening the anterior chamber. Having seized with the forceps the iris at its lower part, I detached about one-third of its circumference from the corpus ciliare. Blood immediately filled the anterior chamber, and flowed through the wound in the cornea. That part of the iris which had been drawn through the incision in the cornea was cut off with scissors, and that part which lay in the incision was pressed back into the

anterior chamber. Lint dipped in iced water was constantly applied over the eye.

14th (four days after the operation).—There had been occasionally attacks of pain in the eye; the pulse, generally about 60, had become quicker, 76, for which he was purged and bled to \mathfrak{xxvj} . with almost immediate relief. The wound in the cornea had united, and the conjunctiva was not much injected. Six days after the operation, the blood was nearly all absorbed from the anterior chamber, but he could not distinguish one object from another.

July 13th (thirty-three days after the operation) he was discharged; his sight so far improved that he could recognise objects as small as a pen. The venesection did not entirely subdue the inflammation following the operation; so that he was afterwards cupped in the temple and nucha, took calomel with opium, and was blistered. About nine weeks after the operation



his sight was still further improved, the artificial pupil being a clear black, and as it is represented in the figure subjoined.

For a long time past he has been able to earn his living by sawing and chopping wood, and by gardening.

CASE VI. — Operation for artificial pupil (*Iridectomiedialysis*).

John Shannon, æt. 47, was admitted into hospital, in May 1845, being so blind that he could scarcely distinguish noonday from midnight, both corneæ being almost wholly densely opaque. There was staphyloma racemosum of the left eye, which, after being punctured several times, so as to discharge the aqueous humour, entirely and permanently disappeared, the cornea becoming rather less convex than normal, and remaining wholly opaque. In the right eye there was a dense central opacity, leaving only the circumference of the cornea (a border not one-tenth of an inch broad) so far transparent that the colour of the iris could be indistinctly seen. Its opacity was very little diminished by many occasional applications of the solid nitrate of silver and sulphate of copper.

May 12, 1845.—I made a vertical incision through the centre of the cornea, through which a small lens

and some vitreous humour escaped along with the aqueous humour. I could not pass the points of the forceps between the cornea and iris, on account of their firm adhesion; but I passed them into the posterior chamber, and, by turning the forceps so that the teeth faced the uvea, the iris was easily seized and detached from the corpus ciliare, on the nasal side, opposite to which the cornea was the least opaque. I drew a considerable portion of the iris through the incision in the cornea, and excised it. The upper lid was drawn down over the eye, and lint confined over it with a bandage, the whole being frequently wetted with iced water.

17th (five days after the operation).—There had been no pain or heat in the eye since the operation, but the conjunctiva was somewhat injected. In a few days more he could always perceive the shade of a pen, or of any small body, when passed between his eye and the light; but he could not distinguish one object from another. This is all the vision which he regained, and as much as could be expected with a cornea so opaque. I need hardly say that I should not have operated in such a case, had not the patient urged me to give him the chance of regaining some vision, however imperfect.

CASE VII. — Operation for artificial pupil (*Iridectomiedialysis*).

John Waggoner, æt. 60, an African black, was admitted into hospital, August 4, 1845. The left eye was too far disorganized to admit of any operation, the cornea being flat, thinned, and diminished to half its normal diameter; the globe was much altered in form, and the pupil and anterior chamber quite obliterated, there being apparently synechia anterior. Of the right eye, the cornea was opaque, except a small spot at its upper part, through which could be seen the dark-brown iris. There were also three large pterygia, covering nearly three-fourths of the anterior surface of the globe, situated on its nasal, temporal, and under side, their apices nearly meeting in the centre of the cornea. He had been perfectly blind for about two years, and I had before discharged him from the hospital, being unwilling to operate on so unpromising an eye.

there being a dense, shining, pearly, white substance on a level with the pupil. He said, however, that he could distinguish light from darkness with this eye. In the right eye there was a central, deep-seated, slight opacity, and with it he could only see to find his way about, the eye being amaurotic. Vision had been impaired for the last four years, but he had never suffered any pain in either eye. The contraction and adhesion, and altered form and position of the pupil of the left eye, was, therefore, as in Case III., the result of a very chronic form of iritis.

June 10th.—I operated by making a semicircular section of the lower half of the cornea, close to its circumference. The lens, almost of its normal transparency, was forced through the iris by the contraction of the recti, the laceration leaving a good-sized pupil. The iris appeared much thinned at its centre, so that it opposed but little resistance to its rupture. The opaque anterior half of the capsule, which was firmly adherent to the uvea, I extracted with forceps.

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14th (four days after the operation).—On opening the lids the conjunctiva was found very little injected, the cornea slightly nebulous, and the wound in it appeared united. The artificial pupil was large, and nearly circular, extending from the centre of the iris downwards and inwards.

Nine days after the operation the cornea had become perfectly transparent, the pupil a bright black, but the patient could only distinguish (*i. e.* with the left eye) the window from the wall, or recognise the light of a candle.

July 13th.—The patient left the hospital, having suffered no inflammation of the eye operated on, and its vision improved, so that with it he could distinguish large objects, and best in a moderate light.

Dec. 28th.—Rather more than six months after the operation I found the pupil a clear bright black, and unchanged in form and size. It is represented in the subjoined figure.



Vision had improved but very little; he could recognise a finger held before his eye, and could see objects best

when held to its temporal side, so that the nasal half of the retina was most capable of receiving impressions. The cornea and humours of the eye remained perfectly transparent, and therefore the nervous apparatus was mostly or wholly in fault. He would probably, having lost the lens, have seen much better with proper cataract glasses.

In this case an artificial pupil, of excellent form and size, and well placed, was formed by the mere rupture of an atrophied iris, the rupture being caused by the expulsion of the lens on the completion of the section of the cornea; and the objects of the operations for extraction of cataract, and for artificial pupil, were as fully accomplished as if the patient had regained the most perfect vision: for by these operations we can do no more than remove the obstructions to the passage of light towards the fundus of the eye.

CASE V.—Operation for artificial pupil by separation of the iris from the corpus ciliare, and by excision of a portion of it (Iridectomiedialysis).

David Henning, æt. 43, was admitted into hospital, May 31st, 1845. The pupil of the right eye was much contracted and adherent, and there was a dense opacity seated in the centre and in the upper half of the cornea. Vision of this eye had been almost lost for the last eight months, which state had been preceded by severe pain in the eye and forehead, and by great inflammation of the former. The left cornea was slightly opaque in its centre, and the sight of both eyes so imperfect for nearly two years, that during this period he had been unable to work. Both eyes were now free from inflammation.

June 10th.—I operated by making a small horizontal incision through the middle of the cornea, opening the anterior chamber. Having seized with the forceps the iris at its lower part, I detached about one-third of its circumference from the corpus ciliare. Blood immediately filled the anterior chamber, and flowed through the wound in the cornea. That part of the iris which had been drawn through the incision in the cornea was cut off with scissors, and that part which lay in the incision was pressed back into the

anterior chamber. Lint dipped in iced water was constantly applied over the eye.

14th (four days after the operation).—There had been occasionally attacks of pain in the eye; the pulse, generally about 60, had become quicker, 76, for which he was purged and bled to $\frac{3}{4}$ vj. with almost immediate relief. The wound in the cornea had united, and the conjunctiva was not much injected. Six days after the operation, the blood was nearly all absorbed from the anterior chamber, but he could not distinguish one object from another.

July 13th (thirty-three days after the operation) he was discharged: his sight so far improved that he could recognise objects as small as a pen. The venesection did not entirely subdue the inflammation following the operation; so that he was afterwards cupped in the temple and nucha, took calomel with opium, and was blistered. About nine weeks after the operation



his sight was still further improved, the artificial pupil being a clear black, and as it is represented in the figure subjoined.

For a long time past he has been able to earn his living by sawing and chopping wood, and by gardening.

CASE VI. — Operation for artificial pupil (*Iridectomiedialysis*).

John Shannon, æt. 47, was admitted into hospital, in May 1845, being so blind that he could scarcely distinguish noonday from midnight, both corneæ being almost wholly densely opaque. There was staphyloma racemosum of the left eye, which, after being punctured several times, so as to discharge the aqueous humour, entirely and permanently disappeared, the cornea becoming rather less convex than normal, and remaining wholly opaque. In the right eye there was a dense central opacity, leaving only the circumference of the cornea (a border not one-tenth of an inch broad) so far transparent that the colour of the iris could be indistinctly seen. Its opacity was very little diminished by many occasional applications of the solid nitrate of silver and sulphate of copper.

May 12, 1845.—I made a vertical incision through the centre of the cornea, through which a small lens

and some vitreous humour escaped along with the aqueous humour. I could not pass the points of the forceps between the cornea and iris, on account of their firm adhesion; but I passed them into the posterior chamber, and, by turning the forceps so that the teeth faced the uvea, the iris was easily seized and detached from the corpus ciliare, on the nasal side, opposite to which the cornea was the least opaque. I drew a considerable portion of the iris through the incision in the cornea, and excised it. The upper lid was drawn down over the eye, and lint confined over it with a bandage, the whole being frequently wetted with iced water.

17th (five days after the operation).—There had been no pain or heat in the eye since the operation, but the conjunctiva was somewhat injected. In a few days more he could always perceive the shade of a pen, or of any small body, when passed between his eye and the light; but he could not distinguish one object from another. This is all the vision which he regained, and as much as could be expected with a cornea so opaque. I need hardly say that I should not have operated in such a case, had not the patient urged me to give him the chance of regaining some vision, however imperfect.

CASE VII.—Operation for artificial pupil (*Iridectomiedialysis*).

John Waggoner, æt. 60, an African black, was admitted into hospital, August 4, 1845. The left eye was too far disorganized to admit of any operation, the cornea being flat, thinned, and diminished to half its normal diameter; the globe was much altered in form, and the pupil and anterior chamber quite obliterated, there being apparently synchia anterior. Of the right eye, the cornea was opaque, except a small spot at its upper part, through which could be seen the dark-brown iris. There were also three large pterygia, covering nearly three-fourths of the anterior surface of the globe, situated on its nasal, temporal, and under side, their apices nearly meeting in the centre of the cornea. He had been perfectly blind for about two years, and I had before discharged him from the hospital, being unwilling to operate on so unpromising an eye.

August 8th.—I made a horizontal incision across the cornea (of the right eye) just below its centre, opening the anterior chamber to about a quarter of an inch in extent. Having introduced the forceps into the anterior chamber, I seized the iris close to the upper part of its circumference, and so firm was its attachment to the corpus ciliare that the latter was drawn down in my attempt to detach the iris, the upper and anterior part of the globe being rendered, for the moment, concave, by the force necessarily employed in order to detach the iris. An equal firmness of structure of the iris, and strong attachment to the corpus ciliare, I had never before met with. Blood, as usual, flowed into the anterior chamber at the moment of separation of the iris, and was distinctly seen through the small transparent portion of the cornea. I drew a part of the iris, about one-fourth, through the cornea, and excised it. The operation was followed by considerable inflammation, which was subdued by the application of iced water, venesection to xxx. , calomel and opium; a second venesection to viiij. ; cupping from the temple, and blisters behind the ear.

Sept. 11th (five weeks after the operation) the inflammation had gradually subsided, and he had so far regained vision that he could count, in a good light, the number of fingers held before his eye.

Nov. 12.—He left the hospital, the artificial pupil being of a clear bright black, and of good size; his vision the same as on Sept. 11th. He laboured under the disadvantage of being unable by the levator palpebræ sup. to raise the lid sufficiently to uncover the artificial pupil, and this arose from a much thickened state of the cartilage of the lid. The existence of three pterygia in the same eye is very unusual. Mackenzie mentions that Beer, in his long experience, had met with it but once.

CASE VIII.—*Extraction of Cataract, with formation of artificial pupil (Iridotomy).*

Hugh King, æt. 24, was admitted into hospital, Nov. 13, 1845. The left eye at this time was amaurotic, the pupil being of a clear bright black, and large, but still contracting and dilating on exposure to different intensities of light. He had been subject for about

six months to the appearance of muscæ volitantes before this eye, and its sight was only sufficiently good to enable him to find his way through the streets. Of the right eye, the pupil was very small, adherent, irregular as to form, and fringed at its upper part. On a level with the pupil was a dense pearly-white capsular cataract; the iris was tremulous, and the globe slightly altered in form. He was certain that this condition of the right eye had not been preceded by any pain or inflammation. There had no doubt been, as in the 3rd and 4th cases, a very chronic form of iritis. His health had always been good, excepting occasional severe attacks of headache; he was first treated (with some benefit) for the amaurosis of the left eye, by cupping in the temple and nucha, and by Pil. Hydrarg. until the gums were sore.

Dec. 12th, 1845, I made a semicircular section of the lower half of the right cornea, near to its circumference, and with Maunoir's sharp-pointed scissors pierced the iris at its lower part, and divided it to the pupil. Through this opening I extracted the lens, amber-coloured and firm, and also the opaque anterior half of the capsule, which being very adherent to the uvea, I tore away with delicate-toothed forceps. So large a quantity of the vitreous humor (being fluid) escaped, that I thought the eye must have collapsed and been lost; immediately before and during the operation, the patient had a severe rigor, apparently from fear; cold water dressing was afterwards applied to the eye.

Dec. 16th (four days after the operation.)—There had been no inflammation of the eye; but on the evening of the 15th he had an attack of violent mania, tearing his shirt in pieces, and the bandage from his eye; venesection to xxvi. and a blister to the nucha, were followed by a subsidence of the mania.

Dec. 20th (eight days after the operation.)—The wound in the cornea had united; the pupil was large, and a clear black, and the cornea of its proper convexity. Iritis had for a day or two been threatening, and the iris was now much changed in colour; there was also a row of red vessels in the sclerotica around the cornea, and some pain in the eye. Two grains of calo-

mel and five of Dover's powder were given three times a day, for four days, when the gums had become sore, the iris less green, and the red zone had disappeared. He could now (twelve days after the operation) distinguish, with the eye operated on, the frames of a window from the squares of glass; before the operation there was total loss of sight of this eye.

At this time, Sept. 1846, nine months after the operation, the cornea is quite transparent; the artificial pupil a clear black, but something smaller than at first. Form and size of the pupil, in the lower and temporal side of the iris. Vision of neither eye has improved, and the patient has, for about six months past, been subject to paroxysms of violent convulsions and spasm of muscles of the face, trunk, and extremity, attended with insensibility, and occurring several times daily. There is probably some cerebral structural change, causing both the amaurosis and also the convulsions and spasms.



In the eight foregoing cases, I have related all the operations for artificial pupil which I have performed during a period of two years; and the eyes were, most of them, certainly not such as a surgeon would wish to select for the operations. They therefore give by no means a too favourable estimate of the benefit to be derived by the formation of artificial pupil in cases requiring it. Three of the patients, Wallace, Clifford, and King, were admitted with amaurosis of one eye, rendering it very probable that the other eye might also be amaurotic, which was found to be the case after the formation in each of a good-sized clear black pupil; they regained some vision, but not sufficiently good to be useful. Three other patients, Fortune, Dentin, and Henning, who had no amaurotic affection, but merely central opacity of the cornea, with contracted and adherent pupil, regained useful vision. One patient, Waggoner, being totally blind before the operation, could afterwards count the number of fingers held before his eye; and another, Shannon, whose cornea had almost lost their transparency, could see only so far as to tell when an opaque body, such as a pen, was moved between his eye and the light.

In none of these cases was the transparency of the cornea, lens, or its capsule, affected by the operations. In two cases no inflammation followed; in three, it was slight; in one, it was considerable; and in two, so acute as to require venesection twice, but perfectly subdued by that, and by other active treatment. Maunoir's operation is by far more difficult to perform than iridectomiedialysis, but in cases requiring also extraction of cataract (the cornea being transparent in the centre), I believe that the former, or some modification of it, is the best; his scissors I think the best instruments for dividing the iris, but to use them requires an extremely steady hand. In cases of central opacity of the cornea, iridectomiedialysis appears to me by far the best operation. We are indebted, I believe, to Scarpa and to Schmidt for a part of this operation, and to Assalini for the rest. To detach a portion of the iris and to extract it, I prefer the forceps I have invented to any other instrument*. In all cases in which the cornea, or even one-third of it, is perfectly transparent, especially if the central part is so, and the retina capable of receiving correct impressions from light, I believe we may, with almost certainty, promise the restoration of useful vision. I am indebted to my friend Staff-Surgeon Widmer for his assistance in all the foregoing operations.

Canada, Sept. 25, 1846.

MEDICAL FEES IN FRANCE.

DR. D. demanded the sum of 4500 francs for 500 professional visits. It appeared that he had received at different times 2500 francs, and he now claimed the balance of 2000. The whole property of the deceased, however, did not exceed 40,000 francs. The Court before which the claim was made, considered that 2500 francs (£100) was a sufficient payment, and dismissed the claim. The allowance made was at the rate of five francs per visit. The *Union Médicale* states as a proof of the inconsistency of Courts of Law in such matters, that on another occasion, where the patient died worth 1,200,000 francs, the medical fees awarded were at the rate of three francs (2s. 6d.) per visit!

* The forceps referred to is an instrument which has been long known and used in England. See Notices to Correspondents in our No. for April 2d.—ED. GAZ.

CARCINOMATOUS
DISEASE OF THE PYLORUS,
OCCASIONING OBSTRUCTION.

By JOHN MACKENZIE, Esq.,
Surgeon to the Naval Hospital, Archangel.

I BEG leave to forward for insertion in your journal the following case, which occurred some time back in this hospital, and which, as far as I am aware, is without a parallel in the records of pathological anatomy.

As I saw the subject of the case in question for the first time on the dissecting table, I shall give the clinical notes kept by one of our junior medical officers, Mr. Dashkevitch, under whose care the patient died.

Shlem Spitalnikoff, 37 years of age, by birth a Jew, and by trade a tailor, of spare habit of body, and of most intemperate habits, entered the Naval Hospital on the 12th February, 1846, with pain and constipation of the bowels; these symptoms were referred to inflammation of the intestines, and were treated accordingly. On the third day after admission the pain had left him, leaving the bowels still unrelieved: this state continued, notwithstanding very active and judicious measures, till the 9th, when the bowels were opened, affording great relief to the patient. At this period the prominent symptoms were foetid eructations and nausea. On the 11th the patient complained of pain in the bowels; on the 12th he was free from pain, and from this period to the 21st there was no change, excepting that the eructations were less foetid; on the 22d a swelling of the abdomen was observed, which considerably subsided next day after a passage was procured from the bowels. 24th—soreness of the interior of the mouth observed; 28th—interior of the mouth covered with ulcers, having a gangrenous aspect; no uneasiness in the bowels on the 29th; ulcers of the mouth began to heal. From this day to the 34th, no remark made, excepting that the bowels were constipated; on the 36th the patient was seized again with pain in the bowels, which on the 37th had subsided; the tension and swelling of the abdomen were increasing; bowels unrelieved. On the 42d it was reported that the ulcers of the mouth were healed, the

belly increasing in size, and the strength of the patient rapidly sinking. On the 45th the abdomen still larger, yielding a distinct sense of fluctuation; from this period the case was considered dropsical; on the 57th day after his admission he was carried off, rather suddenly, by inflammation of the lungs.

Autopsia.—Body emaciated to a great degree; the abdomen very large, like that of a patient in the large stage of abdominal dropsy, yielding, on percussion, a distinct sense of fluctuation. The abdomen being opened, it was found occupied by the stomach, enormously enlarged, and distended with gas and food reduced to a liquid pulp. This state of things led us to infer, what, on further examination, proved to be correct, that there was some obstruction at the pyloric orifice. On examination, it was found occupied by a carcinomatous tumor, four inches long, and nine-tenths of an inch thick, uniformly surrounding the opening, and entirely closing it up. The obstruction was rendered more complete by a nipple-like tubercle springing from the side of the passage at the origin of the constriction, which must have acted like a plug or valve. The stricture was two inches and a half long, terminating in the duodenum with a round smooth projection, like the collum uteri. The mucous membrane of the constricted part was of a smooth yellow appearance, with little excrescences springing here and there from its surface. These as well as the membrane itself were quite free from any scirrhous hardness. The disease presented a fibrous structure, was seated in the connecting cellular tissue, between the mucous and muscular coats, and might have been separated from both by dissection. The muscular coat was hypertrophied to such a degree that it was nearly three-tenths of an inch in thickness. Along the great curvature the peritoneal coat in some places had given way, exposing to view the muscular coat in fibrous shreds, through the interstices of which the mucous membrane, solely left entire, protruded. The organ was found to contain twelve pints of liquid pulpy chyme, perfectly free from any faecal matter. The chest was greatly encroached upon by the stomach and liver; the lungs were found highly congested with blood, and inflamed.

The most extraordinary feature in this case is, that there was no vomiting through the whole course of the disease, nor the more urgent symptoms of obstructed bowels, as would infallibly have taken place had the obstruction been seated lower down.

It would seem that the stomach had lost its power of contraction from over-distension, as happens to the urinary bladder in a similar condition. I am of opinion that in ileus the paralytic state of the bowels sometimes proceeds from this very cause; not as much, however, in consequence of fecal accumulation, as from the sudden evolution of gas, causing a speedy dilatation of the gut beyond the power of reaction.

Naval Hospital, Archangel,
Feb. 1847.

*. * We shall be glad to receive further contributions from Mr. Mackenzie.

INFLUENCE OF THE PNEUMOGASTRIC NERVES ON DIGESTION.

THE results of some experiments performed by MM. Bouchardat and Sandras to determine the influence possessed by the pneumogastric nerve over digestion, shew clearly that division of both these nerves in the neck at once arrests the process of digestion so far as the stomach is concerned, but has no influence over that part of the process which takes place in the intestines. After feeding dogs with a mixed diet, and then dividing both pneumogastric nerves, they found, after twenty-four hours, that those substances, the digestion of which is effected principally in the stomach, such as albumen and fibrine, were quite unchanged, whereas those substances which are digested in the intestines, such as the amylaceous and fatty principles, had been dissolved and absorbed just as though the pneumogastric nerves had been undivided. In several of their experiments they found that although no chyme is prepared in the stomach after division of the nerves, yet that the starchy principles which pass into the intestine are there converted into glucose, and that the fatty matters are absorbed by the lacteals, just as in the ordinary state of health; so that the digestion and disposal of these principles appears to be quite uninfluenced by the operation. They found also that it is not by compression of the trachea by the distended œsophagus that rabbits die when fed after division of pneumogastric nerves as high up as on a level with the larynx.—*Comptes Rendus*, Janvier 1847.

EXPERIMENTS ON PROFESSOR LIEBIG'S NEW TEST FOR PRUSSIC ACID,

WITH REMARKS ON ITS APPLICATION IN
MEDICAL JURISPRUDENCE.

BY ALFRED S. TAYLOR, F.R.S.

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IN a paper lately published, a short translation of which has appeared in the *Chemical Gazette*,* Professor Liebig has suggested an entirely new process for the detection of prussic acid. He remarked, that, when a concentrated aqueous solution of this acid was heated with ammonia and an excess of sulphur, the prussic acid was speedily converted to sulphocyanide of ammonium, which was easily procured in a crystalline state on evaporation. Thus the persulphurets of ammonium, when boiled with prussic acid, lose their yellow colour, owing to the union of the sulphur with cyanogen to form sulphocyanic acid. In applying this process for the testing of prussic acid, the Professor states that "a couple of drops of an acid which has been diluted with so much water that it no longer gives any certain reaction with a salt of iron by the formation of Prussian blue,—when mixed with a drop of sulphuret of ammonium, and heated in a watch-glass until the mixture has become colourless, yields a liquid containing sulphocyanide of ammonium, which produces, with persalts of iron, a very deep blood-red colour."

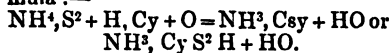
The prussic acid which I employed in the following experiments was first accurately examined as to its strength. Two hundred grains gave by precipitation with nitrate of silver 14.3 grains of dry cyanide of silver. This would be equal to 2.88 grains of anhydrous prussic acid, or 1.44 grains per cent.

Prussic acid.—Two drops of this acid (= 0.28 gr., or about 1.36th of a grain of anhydrous acid) were placed in a watch-glass and heated with a drop of the common hydrosulphuret of ammonia. When the liquid had entirely lost its yellow colour, an opaque film appeared on the glass; and, on adding one drop of a solution of persulphate of iron, an intense blood-red

* April 1, 1847.

colour was immediately produced. The colour was entirely destroyed, and the liquid became colourless, on the addition of two or three drops of a solution of bichloride of mercury. It was thus evident that the prussic acid and hydrosulphuret of ammonia had reacted upon each other, producing sulphocyanate of ammonia and a thin film of sulphur, which might have been easily separated by water, but it did not in the least degree interfere with the chemical reaction upon which the operation of the test depended.

Chemical changes.—The common hydrosulphuret of ammonia employed ($\text{N H}^3 \text{H S}$, or N H^4 , $\text{S} + \text{H S}$) was of a yellow colour; the ammonium was therefore most probably in the state of bisulphuret (N H^4 , S^2) one equivalent of hydrogen having combined with the oxygen of the air. Admitting this to be the composition of the hydrosulphuret, although ammonium has, like potassium, several degrees of sulphuration, the chemical reaction may be explained by the following formula:—



The slight residue of sulphur may have been owing to the hydrosulphuret being in excess, compared with the quantity of prussic acid present. From the substances employed, and the results, it is evident that if the boiling and evaporation be not carried far enough, the persalt of iron will be precipitated by the undecomposed hydrosulphuret of ammonia; and, if the heat be carried too far, the sulphocyanate of ammonia may itself undergo decomposition.

Diluted prussic acid.—The prussic acid employed in the previous experiment was now much diluted with water. Two drops of the acid were thoroughly diffused in 220 grains of distilled water; and each grain of this mixture would therefore contain no more than 1-7860th ($220 \div 0.28$) of a grain of anhydrous acid.

In order to compare the effect of the new with the old tests, ten minims of this very diluted acid were tried with the common Prussian blue test. The liquid acquired a yellowish tint; but after several hours there was no perceptible deposit of Prussian blue. Thus the iron test failed entirely to detect the 1-786th of a grain of prussic

acid in ten minims of water. It required one drachm and a half of this diluted acid (=1-87th grain) to produce after twenty minutes a perceptible deposit of a Prussian blue of a greenish colour. A like quantity (ten minims) was taken, and a solution of nitrate of silver added to it. There was only a faint opalescence, but no deposit of cyanide of silver. The silver test therefore failed in detecting the 1-786th of a grain of the acid; for the production of a faint opalescence could not be regarded as indicative of the presence of the poison. The effect of this test became apparent with one drachm of the diluted acid (=1-131 part of a grain), but still there was no visible deposit of cyanide of silver.

It need hardly be remarked that in this highly diluted condition there was not the least perceptible odour of the poison.*

Two minims of the diluted acid were now placed in a watch glass with one minim of diluted hydrosulphuret of ammonia, and gently evaporated to dryness. A drop of the persulphate of iron added to the residue, gave immediately a reddish tint indicative of the presence of sulphocyanic acid or a sulphocyanate. The quantity of anhydrous acid which was here clearly detected by the test, was not more than 1-3930th of a grain! ($7860 \div 2$.) It was evident therefore from these results that Professor Liebig had not exaggerated the delicacy of this valuable test. It is capable of indicating the presence of prussic acid when no odour can be perceived, and when the iron and silver tests fail to act with any degree of certainty.

The reader will perceive that the cause of this highly delicate reaction is, that we obtain the residue in a solid, and therefore in a most concentrated state. There is no water to dilute or destroy the intense blood-red colour characteristic of the sulphocyanate of iron. Hence the chemical changes are most perfectly brought out on the smallest visible quantity of

* I have elsewhere shewn, with respect to the action of nitrate of silver on a solution of prussic acid, that it will produce a milkiness with the 4000th of a grain of anhydrous acid in a minimum of water; but it only begins to give a decided precipitate with the 220th of a grain in about 13,000 parts of water.—*Guy's Hospital Reports*, April 1845.

residue. The only precaution required is, not to add too much of the persulphate of iron; a fractional part of a drop will commonly suffice. The salt of iron should be used in a concentrated state, and as neutral as possible.

The application of Professor Liebig's process, however, presupposes that the experimentalist has the prussic acid in a free and pure condition. In medico-legal practice, the poison, as we know, is liable to be mixed up with mucus, blood, articles of food, and other matters. It would be impossible to employ the test under these circumstances. It would always be necessary to distil the contents of the stomach or vomited matters; and from the numerous objections which have been taken to medical evidence, it is decidedly advisable to avoid the process of distillation, until *after* the poison has been clearly detected without it. It may then be required, not to determine the presence of prussic acid, but the *quantity* contained in the suspected liquid. Further, supposing the contents of the stomach to be in a decomposed state, or to contain hydrosulphuret of ammonia, a body which I have on several occasions found in them, it is clear from the foregoing experiments that the application of heat would cause any prussic acid to react upon the sulphur compounds, and to form a fixed sulphocyanate, so that none of the poison might pass over into the receiver.

In a paper published in this journal in June 1845,* I suggested a plan for detecting prussic acid without distillation by taking advantage of its great volatility, and the action of its vapour on a solution of nitrate of silver. The experiments there related, as well as those performed by Mr. Hicks,† show that this is a most delicate mode of testing, and that it is open to no practical objection.‡ I have found, however, in testing putrescent liquids, and animal matter containing prussic acid,

that the nitrate is darkened by the sulphur; and the reaction of the hydrocyanic acid is no longer clear or certain. This mode of employing nitrate of silver led me to the trial of a similar plan for the detection of prussic acid by the hydrosulphuret of ammonia.

Modification of the test.—Place the diluted prussic acid in a watch-glass, and invert over it another watch-glass, holding in its centre one drop of the hydrosulphuret of ammonia. There is no apparent change in the hydrosulphuret; but if the watch-glass be removed after the lapse of from half a minute to ten minutes, according to the quantity of prussic acid present, sulphocyanate of ammonia will be obtained on gently heating the drop of hydrosulphuret and evaporating it to dryness. The addition of persulphate of iron to the dried residue brings out the blood-red colour instantly, which is intense in proportion to the quantity of sulphocyanate present. Such is the simple method of employing the test: it is wholly independent of distillation, and, (unless the prussic acid be excessively diluted,) of any application of heat. In this case the warmth of the hand may be required to expedite the evolution of the vapour.

Whatever proportion of acid may be detected by the mixture of the two liquids, as suggested by Professor Liebig, may be with equal certainty discovered by this process. Thus two drops of the highly diluted acid just now mentioned, gave, after a few minutes' exposure to the hydrosulphuret, a clear reaction: while it was found that a drop of solution of nitrate of silver placed in a watch-glass and inverted over that containing the diluted acid, gave no opaque film (cyanide of silver), until after the lapse of half an hour! Hence the process is even more delicate than that of the reception of the vapour on a solution of nitrate of silver, as suggested in a former communication to this journal.*

The two tests may be usefully employed together. If a suspected liquid, placed in a watch-glass, produce a film on a drop of nitrate of silver, the reaction will be very speedy with the hydrosulphuret. The silver test acts *visibly*, and therefore serves to guide us: the hydrosulphuret acts invisibly;

* Vol. xxxvi. p. 328.

† Ibid. page 631.

‡ Although the vapours of muriatic acid, when in a certain strength (never found naturally in the body), produce also a white film on a solution of nitrate of silver, I have since found that these are easily known from those caused by prussic acid, by the rapid darkening under exposure to light. The thin film of cyanide is soluble in an excess of strong nitric acid—that of the chloride is not.

* Vol. xxxvi. p. 328.

for there is no apparent change unless the glass be left so long that the ammonia is spontaneously evaporated, and the sulphur oxidated or deposited. If the suspected liquid produce, after half an hour, no effect by its vapour on a drop of nitrate of silver, it is very probable that no prussic acid is present: nevertheless, we should proceed to apply the hydrosulphuret of ammonia, as I have found the poison by it when nitrate of silver had entirely failed to indicate its presence.

Rapidity of action.—Twenty drops of prussic acid, so diluted as to have a strength in anhydrous acid of only 0.48 per cent., therefore rather less than one-fourth the strength of the London Pharmacopœial acid, were placed in a watch glass. On inverting over it another watch glass containing a drop of nitrate of silver, it was whitened immediately; a drop of hydrosulphuret of ammonia was then substituted. By two separate trials, sulphocyanate was found to have been formed in *ten seconds*, and the effect was very strong in thirty seconds; the quantity of anhydrous prussic acid here detected was .096 gr., or about 1-12th of a grain. It would be in general advisable to expose the hydrosulphuret to the vapour for one or two minutes, and when the acid is very diluted, for from ten minutes to half an hour. The following experiment will, however, show that the absorption is extremely rapid, even when the acid is much diluted. Three drops of the prussic acid above employed were diffused through two drachms of distilled water; no odour whatever could be perceived in this mixture; ten drops were placed in a watch glass, and nitrate of silver was speedily whitened by the vapour. The effect with hydrosulphuret of ammonia was distinctly procured in five minutes; the total quantity of anhydrous acid present in the ten drops of liquid did not exceed the 1-473rd part of a grain!

Laurel water.—A very weak specimen of laurel water was next examined. Nitrate of silver produced no perceptible effect with one drachm of it when the liquids were mixed, nor could any Prussian blue be procured from a like quantity by the use of the iron test. One drop of hydrosulphuret of am-

monia added to three drops of the water, gave the clearest evidence of prussic acid by the production of the red sulphocyanate of iron, when the persulphate was added to the evaporated residue. From five to ten drops placed in a watch glass, produced no film (by the vapour) on nitrate of silver after the lapse of twenty minutes: in the same period of time, one drop of hydrosulphuret of ammonia absorbed the vapour, and left, on evaporation, a perceptible quantity of sulphocyanate.

Bitter Almond water.—Two specimens of this water, prepared by the distillation of bruised bitter almonds with water, were tried merely by volatility, as it was certain that if this experiment succeeded, the mixture of liquids could not possibly fail. With one specimen, after half an hour, no effect had been produced on nitrate of silver; and on trying the hydrosulphuret, no sulphocyanate of ammonia was detected in the evaporated residue. Two drachms of this water gave no perceptible precipitate with nitrate of silver, nor could any Prussian blue be obtained by adding the iron test to a similar quantity of liquid. The second specimen of bitter almond water which was slightly precipitated by nitrate of silver, and affected that liquid by its volatility, gave decided evidence of prussic acid in *three minutes* by the hydrosulphuret of ammonia.

Bitter Almonds.—It is not easy to detect the prussic acid, evolved by the admixture of water, in the pulp of one bitter almond; the iron test gives, however, a blue deposit (Prussian blue) after some hours. The pulp obtained from *one half* of a bitter almond, bruised with water, faintly affected nitrate of silver by its volatility, but in a quarter of an hour gave clear evidence of prussic acid with the hydrosulphuret of ammonia.

Essential Oil of Bitter Almonds.—The vapour of this oil, if long kept, only faintly affects nitrate of silver by its volatility; and does not readily give a precipitate of cyanide of silver on the addition of this test; *one drop* of the oil gave, in a few minutes, distinct evidence of prussic acid, in absorbing its vapour by hydrosulphuret of ammonia.

Decomposed Prussic acid.—This was a specimen which had been kept three years; it was quite blackened, and in

a thick and syrupy condition; it produced by its volatility an opaque film in a few seconds, and the prussic acid, still remaining in it, was detected in an equally short period by the hydrosulphuret.

Hydrocyanate of ammonia.—The combination of Prussic acid with alkaline bases does not prevent this delicate reaction. To one drop of the acid employed, two drops of a moderately strong solution of ammonia were added: the liquid was strongly alkaline. Nitrate of silver was rendered opaque by its vapour, and the hydrosulphuret gave the usual evidence of the acid in a few minutes. When a very large excess of strong solution of ammonia was added, there was no effect on exposing to the vapour the nitrate of silver or the hydrosulphuret; but by diluting the liquid, and then acidulating it with diluted sulphuric acid, satisfactory results were obtained with both tests in a few minutes.

Cyanide of potassium.—A single grain of this salt moistened with water, forming a strong alkaline solution, gave by its vapour a well-marked action on the silver and hydrosulphuret in a few seconds. An alkali, therefore, does not fix the acid so as to prevent the action of the tests. This is important in examining decomposed organic liquids, or those into which we do not wish to introduce an acid.

Cyanides of silver and mercury.—Half a grain of each of these salts moistened with strong muriatic acid gave characteristic reactions with both tests in a few seconds. Any visible quantity of either cyanide in small glasses would suffice to give evidence. This is an excellent and easily applied experiment for determining the nature of a precipitate supposed to be cyanide of silver, when a sufficient quantity cannot be obtained for the combustion of cyanogen, and we are unwilling to trust to odour alone. While it is much more easily applied than that suggested by Dr. Austin, of heating the precipitate with iron and potassium, the results are just as satisfactory. Prussian blue not being easily decomposed by muriatic acid, produced no effect with the tests. This compound might, if required, be examined by digestion in potash, pouring off the

ferrocyanide of potassium, and adding sulphuric acid.

Ferrocyanide of potassium.—A grain of this salt in powder mixed with water and strong sulphuric acid, on the application of a moderate heat, yielded a vapour which affected the silver and the hydrosulphuret in two or three minutes. The last experiments resorted to were perhaps the most important in a medico-legal point of view.

In decomposed organic liquids.—The putrefied contents of the stomach of a female who had died under a suspicion of irritant poisoning about three weeks before, were taken for the first experiment. The odour was highly offensive,—acetate of lead was immediately blackened by the vapour, and the trial test of silver was also blackened by the sulphur: consequently in this case it could not be used for the detection of prussic acid. To *one drachm* of this offensive liquid, *one drop* of the acid employed ($=0.14$ or $1-7\frac{1}{2}$ of a grain of anhydrous prussic acid) was added, and a watch-glass, with hydrosulphuret of ammonia, was placed over it. In a few minutes the presence of prussic acid was most satisfactorily detected.

To an equal portion of decomposed vomited matter, consisting of blood, mucus, bile, and other substances, *one drop* of the acid was added; and when the hydrosulphuret was exposed to the vapour, the results obtained were equally satisfactory. Nitrate of silver could not be employed in this case, as it was immediately blackened by the vapour.

It will thus be seen that the process is more delicate, more speedily and universally applicable, and more certain and unobjectionable in its results, than any of those yet suggested for the detection of this powerful poison. To Professor Liebig belongs the merit of this discovery, and by announcing it he has placed in the hands of chemists a means of tracing crime in cases in which our present resources would have entirely failed us. He has here done for Prussic acid what Reinsch has recently done for arsenic: the analysis may be made during the post-mortem examination of a body, and the result relied on as conclusive both affirmatively and negatively.

Objections.—I am not aware of any

objections to this process for detecting Prussic acid when we absorb the vapour of the acid, previously to distillation, by hydrosulphuret of ammonia. There must be some compound of cyanogen capable of uniting with sulphur to form sulphocyanic acid, and capable of being evolved from a body at common temperatures in a few seconds in order to produce the effects described; and, so far as I am aware, no such body exists. If it did, and these results were obtained, they would still furnish a proof of its containing a powerful poison—cyanogen. I have not had an opportunity of trying the bromide and iodide of cyanogen; but these compounds are well characterized by other properties, and are not likely to be confounded with hydrocyanic acid. The preliminary test of nitrate of silver will besides aid us in many cases which might present some apparently ambiguous results. The sulphocyanic acid exists in the saliva, but as it is combined with a base it cannot be volatilized at common temperatures so as to mix with the hydrosulphuret, and lead to deception. As white mustard contains a principle (sulphosinapisin) capable of being converted to sulphocyanic acid, a quantity of the seed was bruised, placed in a watch-glass, and exposed to hydrosulphuret of ammonia. The pulp immediately acquired a yellowish tint from the vapour of the ammonia, but after a quarter of an hour's exposure to the hydrosulphuret, it left no sulphocyanate on evaporation. On pouring some persulphate of iron on the pulp, it acquired a dingy red colour.

The proof, therefore, of the presence of Prussic acid by this process is based on two facts: 1st, the great *volatility* of a cyanogen compound in a state fitted to combine with sulphur to form sulphocyanic acid; and 2d, the production of an intense *red colour* with a persalt of iron capable of being entirely destroyed by a few drops of bichloride of mercury. I believe that there is no substance known to chemists which fulfils these conditions except Prussic acid: hence no other test is required for the poison. The Prussian blue test may be occasionally employed as corroborative; and I have found that a useful method of applying it is to precipitate the mixed oxides from the green sulphate in a gelatinous

form, and to expose them to the vapour of the acid in a watch-glass.

It must be understood that the new test merely demonstrates the *presence* of the poison. For a quantitative analysis, distillation and the use of the nitrate of silver must still be resorted to. If distillation be employed qualitatively, a small quantity of hydrosulphuret of ammonia might be placed in the receiver in order to fix the vapour when the quantity of poison was small.

It may be proper to state that if the hydrosulphuret of ammonia have absorbed no prussic acid, it gives before evaporation a black precipitate with persulphate of iron; if it be evaporated until the yellow colour has disappeared, should no sulphocyanate be present there is merely a yellow tint from the separation of sulphur. Other alkaline sulphurets may be substituted for the hydrosulphuret of ammonia, but they must be always in the state of polysulphuret: and the chemical reaction with Prussic acid is never perfect until after heat has been applied to the mixed liquids or to the sulphuret which has absorbed the vapour.

HORNY GROWTH FROM THE HEAD IN THE HUMAN SUBJECT.

ONE of those curious examples of the development of a horny growth from the head in the human subject has recently fallen under the notice of Dr. Blasbery. The individual in whom this occurred was an old man, 84 years of age. The horn sprang from the right temple close to the outer angle of the orbit; it was about three inches in length, stood straight out from the head, and gradually tapered to a point from the base to the extremity. The diameter at the base was an inch and a half; the point was slightly crooked. It was said to have originated in a kind of warty growth, and to have occupied about a year and a half in attaining its full size. It afforded him no pain or uneasiness. An ignorant quack having persuaded the man that he could remove it without pain, proceeded to apply some corrosive material to the base of the horn, by which its removal was indeed shortly effected, but in its place there was left a painful and extensive ulcerated surface, of a malignant aspect, which continued to spread, and in four months caused the old man's death. — *Casper's Wochenschrift*, Dec. 1846.

MEDICAL GAZETTE.

FRIDAY, APRIL 30, 1847.

For some time past, as our readers are probably aware, various paragraphs have appeared in the medical and daily journals not very creditable to those who have the management of the affairs of the Middlesex Hospital. No other inference could be drawn from them than that the whole system was in a disorganised state, and that there was neither governing head nor governing body. We have watched the conflicting proceedings of Boards and Committees with some interest, as they affect the stability — nay, even the existence, of one of our large metropolitan charities; which has boasted and can still boast of possessing medical officers ranking high in the profession. From information which we have been able to procure from authentic sources, we learn that a Committee has recently reported upon the abuses connected with the management of this Institution, and has indicated the necessary remedies. The Report has been opposed; but this we were prepared to expect. Great interests are involved in the alterations: the weekly-board interest is one, the house-visitor interest another. Secretaries and treasurers have definite rights, and matrons indefinite wrongs.

The question which was brought to an issue before a General Meeting of Governors, on Tuesday, the 20th, was, whether the details of the hospital should be committed to an unlimited and irresponsible, or to a limited and responsible weekly board? The latter alternative was adopted. The examples of the London, North London, and King's College Hospi-

tals, where the affairs are regulated by a limited committee, appear to have exerted a proper influence on the public sense of the Middlesex; the governors of which have at last understood a distinction, which, in every thing except matters of charity, has long been as clear as noon to the world at large,—we mean the difference between the constitution of a legislative and an executive body. In the Middlesex Hospital any one who subscribed could attend at the weekly board; in other words, he purchased by his three guineas not only the privilege of relieving sickness, and of mitigating poverty, but of determining the particular modes of doing so. This was a privilege of some practical importance, but obviously open to considerable abuse, since a subscriber could not only do good, but could do it in his own way. Every subscriber thus had the power of gratifying two feelings at once—his love of charity, and his love of legislation. And this is what all pseudo-philanthropists admire overmuch. It is also this principle which ruins the charity that it would uphold: what was meant for good, is thus made to end in evil. Benevolence works blindfold: the giver finds no blessing in what he gives, and the receiver is wronged in what he should receive.

When boards are unlimited there is of course no regularity in the attendance. With a thousand subscribers, each able to attend, any one may make sure of a *quorum*, and absent himself accordingly.

Neither is there any uniformity in the proceedings. The decisions of a small meeting one week may be nullified by an influx of amateurs at the meeting which takes place the following week. At the same time there is an entire want of harmony in action. Party spirit exists among the

It is proposed that they shall still have a power of altering the laws, and of enacting all fundamental changes. They will meet for this at the proper time: but they will meet once in four months, instead of forming a non-descript vicarious assembly once in seven days. Unless some regulation of this kind be speedily adopted, we predict that this hospital will lose the confidence of the public and the support of a large body of its subscribers.*

ON THE PRESENCE OF LEAD IN THE TISSUES OF THE BODY, AND THE MEANS OF DISTINGUISHING IT FROM LEAD TAKEN AS A POISON.

At a late meeting of the Academy of Medicine, M. Orfila maintained that the organs of the human body always contained *lead*, to which the term "normal" lead was applied. It might be detected by carbonization in the liver, spleen, and other viscera. If a salt of lead had been taken as a poison, and conveyed into the tissues by absorption, the mere digestion of the viscera in boiling water will, according to M. Orfila, suffice to separate the soluble compounds of lead produced. Carbonization would in these cases lead to a decided error, because then the lead would be confounded with that which is a normal constituent of the body. M. Bussy suggested that lead taken into the body by absorption, as, through an application of the salts to the skin, by inhalation or in the food, might become so incorporated in an insoluble form with the organs, that boiling water would not suffice to remove it. M. Orfila thought this a theoretical objection.

In answer to the view of M. Guibourt, that the so-called "normal" *copper* found in the viscera of the human body arises from the use of culinary utensils made of copper, M. Orfila stated that copper was contained in wheat; and, judging from the quantity of corn consumed in France, it was ascertained that no less than 3,650 kilogrammes (=8042 pounds Av.) of metallic copper annually found their way into the bodies of Frenchmen!

* * M. Orfila may be quite correct about the quantity of copper consumed yearly in France, but we believe with M. Bussy that absorbed lead cannot be separated from the viscera by boiling water. The positive existence of lead as a normal constituent of the body is not yet satisfactorily proved.

* Since the above was written the *whole* of the Report has been adopted. From this we surmise well of the future destiny of the Hospital.

Reviews.

On Tumors of the Uterus and its Appendages. (Jacksonian Prize Dissertation.) By THOMAS SAFFORD LEE, M.R.C.S.E. &c. 8vo. pp. 247. London: Churchill. 1847.

MR. LEE observes, in the preface to his work, that his remarks on this subject have been strictly confined to tumors of the uterus and its appendages; which he has classified in three divisions—viz. (1). Tumors of the Uterus: comprising tumors of the walls of the uterus, polypoid tumors, cauliflower excrescence of the uterus, and malignant tumors of that organ. (2). Tumors of the Ovary: comprising cystic tumors of the ovary, and malignant tumors of that organ. (3). Tumors of the Vagina and external organs of Generation. He adds, that throughout the whole of his dissertation he has endeavoured to adhere strictly to facts, to assume nothing, and to depend upon those cases of disease only which have come under his own notice. Where this has been impossible, and it was necessary to collect cases in illustration from various periodicals and other publications, the greatest care has been taken to ascertain their accuracy, and those only upon which he could rely have been referred to. The manner in which Mr. Lee has succeeded in carrying out the above plan is at once highly creditable to his own industry and judgment, and remarkably well calculated to afford a valuable model to the writers of prize essays. The treatise is principally composed of well-chosen selections from the recorded facts and opinions of previous writers on uterine diseases, illustrated by a very considerable number of interesting cases, and observations by the author: these materials are so judiciously and skilfully combined throughout the work, that the reader cannot but feel, as he continues his perusal, that, although the treatise is not one of great originality, it is by no means an ordinary compilation, but that it is replete with interesting and valuable information, and that the whole of its details have an essentially useful and practical bearing. We

shall now proceed to give a condensed abstract of some of the most interesting facts contained in this work.

Among other observations on the *diagnosis between uterine tumors and pregnancy*, Mr. Lee makes some judicious remarks on the means by which the alterations in the mammæ so generally observed in cases of enlargement of the womb may be distinguished from those which the breasts undergo during the progress of utero-gestation. He considers that the changes which the nipple and surrounding parts undergo in pregnancy, although not infallible, are still very conclusive: he remarks,—

“These changes” [in pregnancy] “consist of an cedematous appearance of the areola and nipple, with a darkened portion around the nipple, and an enlargement of the follicles. Some or all of these changes, as far as my experience goes, (and I have taken notes of more than one hundred patients), are always present; in two only of the hundred was there neither areola nor follicle, but the cedematous state of the nipple existed to indicate pregnancy. But some of these signs not only belong to pregnancy, but also to disease, and consequently ought to put us upon our guard. I have noted carefully the appearances of the breasts in ten cases of fibrous tumors, and I have almost invariably found the following characters. That, at the commencement of the disease, or when it had produced such irritation as to cause the patient to apply for medical advice, I have found that the breasts have, in the great majority of cases, been enlarged and tumid; that the areola has, in eight cases out of ten, been enlarged and darkened; that in the same number the follicles have been more or less numerous, in some they have been remarkably distinct: but that in only one case out of ten was there any moisture or cedema of the nipple or areola present, and this was a suspicious one, as the patient never came back after the first consultation. All these cases were under observation a considerable time, except the last, and therefore we are positive that in none pregnancy existed. In one case also the patient obtained, by squeezing the nipple, a whitish fluid resembling milk.

The author contrasts, at considerable length, the respective value of the operations of ligature and excision in the removal of the uterine polypi: Mr. Lee is strongly impressed with the value of the facts adduced by Dupuytren, Lisfranc, and others in favour of the latter procedure; he considers that

the danger of fatal bleeding, after removal of the polypus by excision, is by no means great, but alludes to a recent case mentioned by Dr Montgomery, of Dublin, which was rendered unsuccessful by the supervention of violent hæmorrhage; he adds that by excision you get rid of the disease at once, and in a few days restore your patient to health, and at the same time avoid the inconvenience of a large and putrid mass decomposing in the vagina; the fluid portions of which, if absorbed, would produce perhaps fatal results. We think that Mr. Lee has somewhat overrated the latter danger.

In illustration of the fact that the pedicle of a polypus, after it has been cut through, has no tendency to grow again, the author mentions that he has lately had the opportunity of examining an uterus, from the cavity of which a large polypus had been removed about a year previously; he assisted at the operation, and knew the particulars of the case. This patient died of malignant disease of the ovary; and, on opening the uterus, the cavity was found rather enlarged, but healthy; and on the posterior wall, just above its neck, was perceived a distinct space of the size of a sixpenny piece, slightly corrugated, with here and there a small protuberance, and apparently covered with mucous membrane. There were no remains of the pedicle, except this cicatrix-like appearance.

The following is Mr. Lee's account of the microscopical appearances presented by a portion of cauliflower excrescence of the uterus, which was removed by excision; it is, however, by no means a favourable specimen of the author's style of description.

“On examining a portion of the tumor, the granulations appeared to be covered with a fine membrane, producing a shining appearance, and small vessels were distinguished ramifying over it. When a portion was squeezed between the fingers, the substance became pulpy. Under the microscope, these lobules were found to be covered, individually, by epithelial scales, resembling those of the mucous membrane; and each was composed of nucleated cells,” [a nucleated cell?] “with, here and there, a blood-vessel ramifying on it, but the tumor was not apparently vascular. The edge of the lobules, with epithelial scales, appeared as if impacted one upon another; beneath which, from its circumference, where the cells were

much compressed, to its centre, cells became gradually developed." (We cannot at all divine the meaning of this sentence). "There was no appearance of fibrous tissue, nor of any caudate cells indicating cancer."

An examination of a portion of the tumor removed after death led to the conclusion that the growth was composed entirely of cells, covered by an epithelial membrane; also that it was of simple structure, and not malignant.

The most important feature of this work is the statistical evidence which the author has collected with reference to ovarian disease.

The author has ascertained the incorrectness of the opinion that ovarian dropsy attacks females indiscriminately, whether they are single or married; he finds that the married are much more liable to the disease than the single, although the latter are frequently affected. Of 136 cases where this fact is noticed, 88 patients were married, 11 were widows, and only 37 were single. This result agrees with the opinion of Dr. Burns, and is opposed to that of Dr. Ashwell, who considers that single women are most liable to the disease.

"The age at which this disease attacks its victims varies considerably. There are cases—formerly supposed to be numerous—occurring before the age of twenty; and Dr. Ashwell has known one case, which commenced at the early age of fourteen years, contemporaneous with menstruation. But these are rare; for, out of 126 patients, only three cases occurred before twenty: but the most common period for its production is when all the generative functions are in full activity, and that is from the ages of from twenty to forty. There are 82 cases in that period of the number already specified; but, during the next ten years, the tendency decreases, and gradually declines to good old age. There are 26 cases between forty and fifty, 19 between fifty and sixty, 3 between sixty and seventy, 2 between seventy and eighty. The prevailing notion, then, that dropsy of the ovary is met with more frequently in the decline of life is erroneous."

We regret that the length of the following extract will prevent us from quoting various other portions of this interesting section, but we would especially direct the attention of our readers to the remarks on the diagnosis of adhesions connecting the tumor to the peritoneal surfaces in cases of advanced ovarian disease, and also to

the observations on the operation of ovariectomy. The following are the conclusions which the author has adduced with reference to the results of paracentesis and gastrotomy in this class of cases.

"1. We have ascertained that ovarian disease is one which is not so harmless as some imagine; that, in fact, under ordinary treatment, it is very fatal. More than half of the cases recorded actually die, a large proportion of the others are reported only to be relieved, and only one in four recover.

"2. That not only is ovarian dropsy fatal, but that it is also *much more rapidly fatal* than is generally supposed; the tables shewing that more than one half, or 63 deaths in 124 patients, in less than two years, and more than half of those (viz. 38) died within the first twelve months.

(3.) That tapping, which has previously been considered the only means of palliating the disease, is a very dangerous remedy. For I find in the tables I have collected, composed of 30 patients, one half, or 15, died within four months of the *first* operation, and 12 of these were after the first tapping. That in the result of the tables drawn up by myself and Mr. Southam, of 46 cases, 20 of which died after the first tapping, 16 died within one month of the operation, and ten of these sixteen, or one half of the whole number, died in seven days after the evacuation of the cyst.

(4.) We find that, supposing the danger of the first tapping to have been escaped, that the fluid reaccumulates rapidly, and that the intervals between each operation become greatly diminished, while the quantity of fluid is increased, so that its remedial powers hardly compensate for the dangers which attend its performance.

"(5.) We must bear in mind that in many cases the operation of tapping can be borne frequently, and life can be preserved in a tolerable state of comfort for many years, under the careful performance of the operation, from 10, 16, 25, or 30 years; and that more than one in three patients, 43 in 142, survive the operation more than four years.

(6.) That the operation of tapping ought only to be performed under one of two circumstances: either early, when the cyst is unilocular, or when the ovarian tumor is producing fatal pressure upon vital organs. In no case, except under the latter circumstances, ought a multilocular cyst to be punctured, because the relief given is so trifling, and the dangers of tapping are so much increased in this form of the disease.

"7. That medicinal treatment produces only slight benefit; it may stop the progress of the tumor for some time, but very rarely effects a cure. Pressure as a remedy prevents the cyst from enlarging rapidly.

"(8.) That ovarian disease sometimes undergoes a spontaneous cure, either by an internal rupture of the cyst, or the communication of it by ulceration into the various outlets of the body.

"(9). That, from the difficulty arising in the cure of this disease, the operation of extraction of the cyst has been proposed and performed in 114 cases, of which number 74 cases have recovered and 40 died, making the average mortality nearly one in three.

"(10). That of these 114 operations, in 24, or rather less than one in five, the operation was obliged to be abandoned, either from extent of adhesions, from the tumor being an uterine or omental one, or from there being no tumor at all,* proving most indisputably the *difficulties of diagnosis*.

"(11). That in the 90 cases where the tumor was removed, nearly one died to three recoveries.

"(12). That the diagnosis of ovarian tumors is very obscure as regards adhesions and the character of the tumor; that adhesions existed in 46 of the 81 where the fact is mentioned, and in 6 there was no tumor.

"(13). That, where adhesions existed, the mortality was greater, being one death in 2½, whereas the mortality was one in three where they were absent.

"(14). That the disease may be complicated with organic disease of other viscera.

"(15). That the principal recorded cases of death, where it took place after the operation, are hæmorrhage and peritonitis; but the cases are much too few to be depended upon.

"(16). When death takes place in consequence of the operation, it is very rapid. Of 30 patients, where the time is mentioned, 14 died within 36 hours, and 25 within a week.

"(17). That the character of the disease is of importance with regard to its mortality. In the extraction of hard tumors of the ovary, the mortality was more than 1 in 2. Of the 16, 9 were cured, 7 died, and in 5 the tumor was not removed; whereas, where the tumor was composed partly of fluid and partly of solid matter, viz. in 65 cases, 44 were cured, 21 died, and in 14 the tumor was not extracted, making the mortality less than 1 in 3; so that the encysted

dropsy is much more favourable to the operation than hard tumors of that organ.

"(18). That, as regards the mortality of the two operations, in 85 cases where the major operation was performed, 50 were cured, and 35 died, making a mortality of 1 to 2½; in 23, where the minor operation was performed, 19 were cured, and 4 died, making the mortality 1 in 6.

"(19). That in some of the cases operated on, the ovarian tumor was malignant, but that the encysted dropsy may be removed without any tendency to malignant disease appearing in the pedicle." (pp. 208-11).

We believe that the above extracts will induce many of our readers to honour Mr. Lee's work with a careful perusal. Although, we repeat, a large proportion of its contents is not of a strictly original character, it is by no means a mere compilation, and it comprehends much that may prove important even to men of long experience.

Lecture, introductory to a Course of Clinical Medicine, delivered in the Theatre of Queen's College, Birmingham, on Tuesday, Dec. 1, 1846. By SAMUEL WRIGHT, M.D. F.R.S. S.A. &c. &c. 8vo. pp. 23.

A SENSIBLE and impressive lecture, evidently the composition of one strongly impressed with a consciousness of the high moral and social responsibilities of the medical practitioner. The sentiments which it contains are by no means new, but they cannot be enforced too strongly or too often:—

"Never look to the worldly condition of individuals to know how much professional attention you are to pay them, and what claims they have upon your sympathy with their sufferings, and anxiety for their welfare.

Circumstances may have made them rich or poor; but remember that Nature has made them MEN! Take a large and liberal view of what humanity is, and you will find that, in the immortal part of it, the veriest beggar that shivers in the street is the equal of the proudest monarch that wears a crown."

THERMAL HOSPITAL.

THE French Government is about to establish a Thermal Hospital at Vichy, in Auvergne, in order that the poorer class of patients may benefit by the medicinal properties of the waters. The temperature of these waters is about 113°.

* The author has, of course, committed a great oversight in enumerating these cases among those in which "extraction of the cyst was performed;" the ovarian tumor has only been removed in 90 cases.

Proceedings of Societies.

SOUTH LONDON MEDICAL SOCIETY.

April 15th, 1847.

C. WATERWORTH, Esq. IN THE CHAIR.

DR. GULL read a paper—

On the Effects of Ether on the different Classes of Animals.

The following is an abstract of the principal facts:—

If a mammal or bird be made to inspire atmospheric air strongly impregnated with ether vapour, in from 60 to 90 seconds its muscular power is lost; it becomes totally insensible to pain; its respiration becomes slow and irregular in rhythm; the venous blood is of a vermilion colour; the heart beats with great rapidity; its rhythm is irregular, and its force diminished. If the experiment be made with a frog, the effect is produced in nearly the same time: considering, therefore, the slowness of its respiratory movements, the mixed nature of its circulating currents, and the lowness of its temperature, it becomes more rapidly affected than a mammal or bird. The state of etherization, when induced, is also more perfect and lasting than in warm-blooded animals, the respiratory movements in frogs being often arrested for six or seven minutes. Alcohol vapour produces similar effects; they are slower in their accession, and more lasting in their effects,—often fatal.

An increased flow of saliva is one of the ordinary effects of the inhalation of ether; this was observed in man, in cats, mice, and birds. The irregularity of the muscular movements which come on amongst the early effects of etherization, do not seem to depend so much upon want of muscular power as upon a loss of muscular sense; that is, the power of appreciating the force of the muscular contraction, and the exact locality of the limb.

The phenomena produced by the inhalation of ether vapour are allied to those which result from alcoholic drunkenness; the former are more transitory, and more speedily induced. If drunkenness either by ether or alcohol is extreme, it will terminate in asphyxia. Some of the phenomena of ether drunkenness are induced by concussion. In both states the surface is often cold, pulse irregular and frequent, respiration irregular in rhythm and force; no recollection of occurrences during the stage of concussion or etherization; memory of events long past wonderfully recalled both by concussion and

etherization. Ether in some persons produces extreme faintness and sickness, with trembling and paleness; concussion does the same. In concussion as in etherization patients are occasionally violent, swearing and manifesting the phenomena of drunkenness.

It has been considered a remarkable fact that, by the inhalation of ether, common sensation should be lost, whilst the senses of hearing and seeing are so little impaired: such a state is occasionally observed in nervous exhaustion alone: two classes of such cases might be enumerated—bilious disorders, and after venereal excesses. In such cases the gait and other muscular movements may be awkward, arising from this diminution of sensation only, and not from muscular weakness.

The phenomena arising during the inhalation of ether are not at all dependent upon supercarbonization of the blood. Frogs are rapidly affected by ether vapour, whilst they may be kept for hours in hydrogen and nitrogen without injury. Pure ether vapour killed a bird past recovery in twenty-five seconds. Ether probably permeates every tissue, but acts most upon the nervous, on account of its physical constitution, the grey substance of the brain containing 4·5 per cent., the medullary substance 14·5 per cent. of fatty matter. The irritability of muscular fibre in frogs is not evidently diminished by ether. Ether probably produces its effects by direct action on the tissues, independently of the quantity of blood in the part. The first effect seems to be an increase of the function, or stimulation; whether this is followed by an increased supply of blood, according to the prevalent law of nutrition, it is not easy to say. If the action of the ether vapour be continued, a loss of function follows, or what is termed its *sedative* effect; this may be the cause of death, or the function of respiration may in the higher animals be depressed for so long a time, that asphyxia may come on. Congestion is not a direct result of the action of ether vapour on the brain, but, as in ordinary alcoholic drunkenness, so in ether drunkenness, asphyxia may be induced, and death follow.

Effects of ether on the blood.—The rigor mortis is well marked in animals killed by ether vapour. The blood has a strong odour of ether. After the inhalation of ether it may be detected in the breath for thirty-six or forty-eight hours. Blood drawn from a vein whilst the animal is fully under the influence of ether has a vermilion colour, and coagulates firmly. The formation of the globules is unchanged.

All other things being equal, it is probable that the fitness of a patient for the inhalation of ether, if that should be desira-

ble, would be determined with more certainty by observations on the nervous system; vascular plethora by no means so far contra-indicating its use as a feeble nervous system. This opinion is based on the known effects of ether on man and the lower animals, especially the cold-blooded. Frogs, when fully under the effects of ether, are yet strongly affected by a single galvanic current, as may be proved by laying the animal so affected on a glass plate, and placing a shilling under the lower part of the spine, and a plate of zinc under the head, and connecting them with a copper wire.

Equal parts of ether vapour and oxygen gas produce a compound as rapidly fatal as ether vapour only. If an animal be etherized and then made to respire oxygen, it does not recover more speedily than if it merely respired atmospheric air. In many cases the respiration of oxygen after ether retards recovery, and in some is rapidly fatal, death following at once on the respiration of oxygen. These results were proved in birds, which breathe oxygen for several minutes without injury. Oxygen, therefore, is not an antidote to the ether vapour. Nitrous oxide gave results similar to those of oxygen.

It is an error to suppose that the action of ether is necessarily allied to asphyxia.

Most of the above statements were verified at the meeting by experiments on animals. The author ended his communication by the following queries upon the surgical employment of ether:—

1st. Is it useful to abolish pain during a surgical operation?

2dly. Can this be done safely by ether?

3dly. Does the presence of ether in the blood modify the healing process?

In answer to Dr. Munk, the author stated that, if immersed in pure oxygen gas for a short time, the animal would be merely excited, no other effect being produced.

Mr. BENJAMIN TRAVERS, jun. remarked, that the proximate as well as immediate effects should not be overlooked, as he believed the effects of ether were progressive, and that a man having been under its influence might die in the course of five days as well as of twenty-four hours. He had known a limb five days after death smell strongly of the ether, the stump having become gangrenous. He believed it to be a poisonous and dangerous remedy, attended with the greatest risk, and requiring the most profound caution in its use.

Mr. BRANSBY COOPER, in reference to Dr. Gull's question "whether it was right in operations to alleviate or prevent pain, provided it could be done with perfect safety?" remarked, that pain was a premonitory condition, no doubt fitting parts the subject of lesions to reparatory action, and

therefore he should feel averse to the prevention of it. In parts operated upon under the influence of ether, there was no muscular contraction, no retraction of the larger vessels, and the small ones continued bleeding; he alluded to a case of lithotomy under the influence of ether. The operating surgeon remarked that, with the exception of the flow of blood, it was like cutting through dead flesh; the parts fell, as it were, asunder, and the sensations were quite different on passing the finger into the bladder. Dr. Gull's paper had more than ever convinced him that it was a poison, and unless other experiments proved it harmless, he should give his decided opinion against its use.

After some observations by the author on the interchange of particles in mixing gases, and their effects, it was moved by Dr. Barlow, seconded by Dr. Munk, and agreed, that as the time of the Society had expired, the discussion on the author's paper be resumed at the next meeting of the Society, on April 29.

WESTMINSTER MEDICAL SOCIETY.

April 10th, 1847.

JOHN WEBSTER, M.D. F.R.S., PRESIDENT.

MR. HIRD made some observations on a

Deformity of the Chest in Children.

He related one of the cases of this deformity which he had seen. It occurred in a little girl now seven years of age. He attended her at the age of six months, when she was suffering from extreme difficulty of breathing, which obliged her to let go the nipple when sucking. The tonsils were found much enlarged, and a portion of them was removed, with much relief to the breathing at that time. He had been attending her again lately. She had cough, and a slow irregular pulse. The abdomen was tumid; the sternum prominent; and there was a projection of the spine backwards about its centre. There was a depression on each side of the chest at the union of the ribs with the cartilages, and a sinking in of the chest at the sides during each inspiration. The tonsils were much enlarged; and he had always found them so when this particular deformity was in existence. Baron Dupuytren, who had written on this deformity, had noticed the enlargement of the tonsils in connexion with it; and he had recommended a peculiar mechanical treatment for it, part of which consisted in the application of pressure by the nurse on the sternum during expiration, and withdrawn during inspiration. He (Mr. Hird) had found this treatment of service.

Dr. SNOW said that the kind of defor-

mity had been noticed by writers in this country as well as by Dupuytren; and he (Dr. Snow) had read a paper on it to that Society several years ago. The cases which he then related depended, however, on enlargement of the abdomen; but he had at that time explained how it might be occasioned by enlargement of the tonsils, when it was so great as to impede the ingress of air to the lungs. Whilst the diaphragm, by its contraction, tended to enlarge the capacity of the chest, the air, unable to enter and distend the lungs, forced inwards by its pressure the still delicate and flexible sides of the thorax of the child.

Dr. MURPHY considered that this kind of deformity depended on scrofulous disease, which interfered with the growth of the bones of the chest; and that although enlargement of the tonsils, disease of the lung, or other causes, might assist in its production, they could not of themselves occasion it. In the infant, the abdomen was large in proportion to the chest; and if, from scrofulous disease, the chest did not grow properly, these infantile proportions would be preserved; the belly, getting larger, would cause the sternum to project, and the sides of the chest to flatten; and if there was obstruction to the ingress of air from enlarged tonsils or any other cause, the atmospheric pressure might press on the flattened sides of the chest.

Mr. STREETER considered that the walls of cavities were influenced in their shape by the contained organs, and not by external causes; and that the form of the chest would depend on that of the lungs and heart, as the skull does on that of the brain.

PUERPERAL CONVULSIONS.

Dr. MICKSCHICK, to whose investigations on the subject of kysteine reference has already been made, tested the urine of twenty-six women in labour, with the view of ascertaining the correctness of Lever's statements as to the presence of albumen in the urine in cases of convulsions. He detected it in the urine of five patients, one of whom was dropsical. Two women were attacked with convulsions, but albumen was found in the urine of only one of them. M. Labat has reported an interesting case where puerperal convulsions came on in a highly anasarctous woman, who at length sank into a comatose condition. By degrees, as the anasarca diminished under the influence of remedies, the albumen, with which the urine had been loaded, disappeared, and the intellectual powers returned.—*Dr. West's Report on Midwifery, 1846-47.*

Correspondence.

THE COLLEGE OF PHYSICIANS OF LONDON.

SIR,—Having in my former letter given an exposition of the law as it affects the different classes of Members of the College, I shall in the present letter offer a few remarks upon its regulations respecting the admission of Candidates.

I have already observed, that there are two Boards of Examiners, namely, the Elects for the provincial Candidates, and the Censors for the metropolitan. This circumstance cannot be avoided, established as the College is, partly by Charter and partly by Act of Parliament.

With the exception of being created by the Act a superior section of the College, and of being usually selected from among the senior Members, the Elects are not particularly distinguished in point of ability from the rest of the Fellows. Like most bodies appointed in a similar manner, it is probable that they are generally selected on the score of merit, but sometimes as a matter of favour. That the rest of the Fellows should not be quite free from jealousy against the Elects, and should raise a cry against them as being a *self-elected* body, is only what might be expected from our knowledge of human nature. Such a feeling probably pervades the greatest part of society; for every class considers itself entitled to occupy a step or two above that in which it is placed, but is disposed to look upon it as great arrogance in a lower class to presume to claim a title to be placed upon an equality with itself. Without offering an opinion at present respecting the comparative integrity of self-elected bodies, and bodies elected by a large constituency, I may be permitted to remind the Fellows *that they are themselves a self-elected body*. It is probable that they are as tenacious of their privilege in that respect as the Elects are.

The Censors are generally selected from among the junior Fellows; and so far, of course, they cannot boast of the experience of their seniors. With this exception the two classes of functionaries are probably much on a par: at any rate there appears no reason why they should not be so.

Such being the construction and relative pretensions of the two examining Boards, we next proceed to the qualifications of the Candidates.

It has been stated over and over again, in different journals, that the qualifications required for the *extra urbem* Letters Testimonial are *inferior* to those demanded for the metropolitan license. This assertion has doubtless proceeded from ignorance of the fact. The truth is, that precisely the same

qualifications are required of both classes of candidates. Should any one doubt this fact, he will be able to find out the truth by applying to the Registrar of the College.

It is not necessary to give the curriculum here: suffice it to state, that the candidate must be twenty-six years of age at least, and that he must have been five years at least studying the medical profession, three of which must consist of attendance on a hospital containing not less than one hundred beds.

We next come to the examinations themselves; and here also a cry has been raised against the Elects and the extra-Licentiate.

It does not appear to me that it requires any extraordinary talent in a well-educated professional man to enable him to discover whether a candidate for the same profession has a fair knowledge of its principles. It would therefore not only be unfair, but absurd, to suppose that either the board of Elects, or the board of Censors, is *incapable* of discharging the duties of examining its respective candidates. If either fails in performing those duties efficiently, it must be from idleness or neglect; and the fault must lie at its own door, and not at the door of the candidate, who complies in every respect with the laws, regulations, and demands of the College.

I understand that, by a very recent regulation, the examination is at present conducted in the same form by both boards; but until then, the examination by the Censors was conducted chiefly by printed papers, and was divided into three parts for three different periods; whereas that by the Elects was altogether *viva voce*, and consisted of one examination only. It appears that the Elects have recently adopted the Censors' plan.

Now either of the above modes may be efficient or inefficient, according to the good or bad management of the examiners. Provided both be equally strict, it is evident that the easiest to undergo is that which is divided into parts, allowing some months to intervene between the different examinations; and considering the present railroad access to the metropolis, it is as well that the Elects should have adopted it.

The existence of the extra-Licentiate is coeval with the foundation of the College; and it is probable that, for the sake of the convenience of candidates, the one *viva voce* examination has been the mode used from the beginning. Indeed, the difficulty of travelling to the metropolis from the distant provinces, in times past, and the expenses attending the journey, rendered such a plan absolutely necessary. Even at the present time, the expense of three journeys instead of one, from distant parts of the country, is a matter of some consideration.

At what period of the history of the College the Censors were constituted examiners I cannot say, but they are not made so either by the Charter or by Act of Parliament. Nor is it certain when the class of Licentiate *infra urbem* was created; for, as already mentioned, it exists under bye-laws of the College, and does not emanate directly from the Charter, nor from the Act of Parliament. It is found in existence in 1647, that is, 128 years after the establishment of the College, and the reason is assigned for creating it. It is only right to observe, that the description given of it by the College at that period will not apply to the class of Licentiate *infra urbem* of the present day.

At the period just mentioned, the Censors were the appointed examiners, and the examination was divided into three parts, as at present.

From the foregoing facts it is evident that the College has no just reason to repudiate one class of its Licentiate more than the other; nor has the metropolitan Licentiate any right whatever, either in law or justice, to presume any superiority over the provincial Licentiate. If there be any difference between them, the profession and the public will now be able to form their own opinion as to which class the law gives the advantage.—I have the honour to be, &c.

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April 13, 1847.

THE GREAT "NACKERY" OF MONTFAUCON, PARIS.

THE *Voirie et Chantier d'Ecarrissage* of Montfaucon, which has existed close to the walls of Paris for several centuries, is an enclosure of many acres, where the contents of the necessities of the city are collected in enormous pits, and where horses, dogs, and cats are flayed to the amount of forty or fifty thousand annually. The fat is melted for blow-pipe lamps, the bones are in a great measure burnt on the premises for fuel; the intestines are made into coarse gut for machinery; the flesh, blood, and garbage are heaped to putrefy for manure; and in summer a bed of compost is spread to breed maggots for feeding poultry! *There is no drain.* Description cannot convey an idea of the stench. The Committee of the Board of Health appointed to make inquiries into the best mode of abating the nuisance, in vain attempted to penetrate into the place. Yet the workmen and their families are stout, healthy, and long-lived.—*Christison on Poisons*, p. 634.

Medical Intelligence.

WESTERN MEDICAL AND SURGICAL SOCIETY.

THE first anniversary meeting of this Society was holden at their rooms in Sloane Street, on Friday, the 9th inst.

The Report of the Council was read. It commences by congratulating the members on the success which has hitherto attended the progress of the Society. There are upwards of sixty members. The library contains already more than 300 volumes, and the reading-room, which is open daily from 10 in the morning till 10 in the evening, has been regularly supplied with all the weekly and quarterly medical periodicals. The Report proceeds to allude to the valuable communications which have been read at the monthly meetings during the past year, and the interesting discussions which have ensued, and dwells especially on the value of these meetings for promoting friendly feelings among the profession. It concludes with some suggestions, the result of a year's experience, for the future. The most important of these is, that the meetings should be held once a fortnight during the medical session, the monthly meetings being retained during the recess.

The Report having been received and adopted, thanks were voted to the President and other officers for their valuable services during the past year, and the officers for the present year were elected.

Sir James Clark was re-elected President; Messrs. Dickinson and Lane, and Dr. Mantell, were re-elected Vice-Presidents, with Dr. Hardwick, of Kensington, in the room of Mr. Woolley, the laws of the Society requiring that one of the Vice-Presidents should retire annually, and Mr. Woolley was elected a member of the Council with Messrs. Gaskell, Godrich, Keen, Mackintosh, Mould, Pettigrew, Pollard, Seaton, Lynnet, Warder, and Wilson. Mr. Muller was re-elected Treasurer, and Mr. Barnes Secretary.

MEDICAL REGISTRATION, AND MEDICAL LAW AMENDMENT.

A BILL FOR THE REGISTRATION OF QUALIFIED MEDICAL PRACTITIONERS, AND FOR AMENDING THE LAW RELATING TO THE PRACTICE OF MEDICINE IN GREAT BRITAIN AND IRELAND.

Preamble.—Whereas the laws relating to the Practice of Medicine in Great Britain and Ireland are numerous, complicated, and contradictory, and the public possess no certain means of distinguishing between legally qualified physicians, surgeons, and

apothecaries, and the mere pretenders to a knowledge of medicine; and whereas it is desirable that the names, qualifications, and places of residence, of the legally qualified practitioners in medicine should be duly registered by competent authority:—

1. *Registrars to be appointed.*—Be it therefore enacted, by the Queen's Most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, That one of Her Majesty's Principal Secretaries of State shall, within one month after the passing of this Act, nominate and appoint three fit and proper persons, being at the time of such appointment qualified to be registered under the provisions of this Act, to be the registrars for carrying this Act into execution, one such registrar to be called the "Medical Registrar for England," another, the "Medical Registrar for Ireland," and one, the "Medical Registrar for Scotland," and the said Secretary of State shall also from time to time appoint such clerks and other officers as he shall deem necessary for the assistance of the said registrars in carrying into execution the provisions of this Act; and that the said Secretary of State may at his discretion remove any registrar or other person so appointed as aforesaid; and that upon the death or resignation of any such registrar or other clerk or officer as aforesaid, or other vacancy in either of the offices so filled, the said Secretary of State shall appoint other proper persons to be such registrars, clerks, and officers respectively; and there shall be paid to the said registrars, clerks, and messengers, out of any monies to be received by the said registrars by virtue of this Act, such salaries as shall be from time to time fixed and allowed by the Lord High Treasurer, or the Commissioners of Her Majesty's Treasury, who may also allow such reasonable travelling expenses as may be incurred by any registrar, clerk, or messenger in the performance of his duties under this Act, and such other reasonable expenses for putting and carrying this Act into execution, as the said Lord High Treasurer or the Commissioners of Her Majesty's Treasury shall think fit.

2. *Monies to be paid to Medical Registration Fund of Great Britain and Ireland.*—And be it enacted, that all monies received by the registrars aforesaid, in carrying this Act into execution, shall be paid by them into the Bank of England, at such times and in such a manner as the Secretary of State aforesaid shall direct, to the credit of the Lord High Treasurer, or the Commissioners of Her Majesty's Treasury, and in the name of the "Medical Registration Fund of Great Britain and Ireland."

3. *Registration of Names, &c. of persons qualified to practise before the passing of this Act.*—And be it enacted, that the several registrars shall, within *thirty days* after their appointment, and from time to time afterwards, register in books to be kept for that purpose, and without any fee whatsoever, the name and place of residence, together with a description of the legal qualification or qualifications, with the date or dates thereof, of every physician, surgeon, or apothecary, who shall apply to be registered, and who, prior to the passing of this Act, shall have taken a degree in medicine in any English, Irish, or Scotch University, or who shall apply to be registered, and shall produce his diploma, certificate, or licence, or other proof of his having obtained a diploma, certificate, or licence, to practise as a physician, surgeon, or apothecary, dated prior to the passing of this Act, and granted by any English, Irish, or Scotch University, College, or Society, or any corporation, sole or aggregate, in England, Ireland, or Scotland, legally entitled to grant the same; and of every person who shall apply to be registered, who was actually practising as an apothecary in England and Wales prior to the first day of August, one thousand eight hundred and fifteen, and who shall sign a declaration according to the form in schedule (A) to this Act annexed, and also of every surgeon and assistant-surgeon of the army and navy, and in the service of the Honourable the East India Company, who shall apply to be registered as aforesaid.

4. And be it enacted, that the several registrars aforesaid shall, from time to time, upon the application of any physician, surgeon, or apothecary, who, after the passing of this Act, shall take a degree in medicine as aforesaid, or produce a diploma, certificate, or licence, as aforesaid, dated subsequently to the passing of this Act, and on the payment of the sum of *Two pounds*, by the person so applying, register in the books to be kept as before mentioned, the name and place of residence, together with a description of the legal qualification or qualifications, with the date or dates thereof, of every physician, surgeon, or apothecary, so applying to be registered as last aforesaid.

5. *Registrars to issue Annual Certificates to Registered Practitioners.*—And be it enacted, that the several registrars aforesaid shall issue a certificate, according to the form in schedule (B) to this Act annexed, to every person who shall be registered as aforesaid, and who shall apply for such certificate; and the said registrars shall issue such certificates for those parts of Great Britain and Ireland only for which they shall be severally appointed to act.

6. *Payment of Five Shillings for Certificate.*—And be it enacted, that every person shall, upon his application for such certificate, pay to the registrar a sum not exceeding *five shillings*, and such certificate shall bear date on the day on which the same shall be issued, and if issued in the year *one thousand eight hundred and forty-seven*, shall continue in force from the date of such certificate, until the thirty-first day of December, one thousand eight hundred and forty-eight, and no longer; and the said registrars, on or before the fifteenth day of December in the year last mentioned, and in every subsequent year, upon the application of any person who shall be then registered, shall issue such certificate to such person in like manner as aforesaid, subject to the payment of a sum not exceeding *five shillings* as aforesaid, which said certificate shall take effect on the first day of January then next ensuing, and shall continue in force during one year, and no longer.

7. *Registrar to keep a Record of Certificates.*—And be it enacted, that each of the said registrars shall duly record an account of every certificate which he shall issue as aforesaid, and in the month of January in every year shall cause to be printed a correct register, according to the form in schedule (C) to this Act annexed, of the names and places of residence, arranged alphabetically, of all persons to whom he shall have so issued certificates during the year then last past, according to the provisions of this Act, together with a description of their legal qualification or qualifications, with the date or dates thereof; and such registers shall be respectively called, "The Medical Register for England," "The Medical Register for Ireland," and "The Medical Register for Scotland;" and a printed copy of the register for the time being, so published as aforesaid, shall be evidence in all courts, and before all justices of the peace and others, that the persons therein specified have obtained certificates according to the provisions of this Act; and the absence of the name of any person from such printed copy shall be evidence until the contrary be made to appear, that such person has not obtained a certificate according to this Act; and copies of such Medical Registers shall be furnished by the respective registrars to every person who shall apply for the same, upon the payment of a sum not exceeding *one shilling* for each copy.

8. *Persons accidentally omitted from the Register may obtain Certificate on paying Twenty Shillings.*—And be it enacted, that if any person entitled by this Act to obtain a certificate as aforesaid, whose name and residence, and a correct descrip-

tion of whose qualification or qualifications, with the date or dates thereof, do not appear in such Medical Register as aforesaid, shall at any time apply for a certificate to any of the registrars aforesaid, and shall prove, to the satisfaction of such registrar, either that he is the person whose name, through his own neglect or mistake, had been omitted from the Medical Register then current, or that he intends commencing or resuming practice, or changing his residence, before the first day of January in the ensuing year, every such applicant shall be entitled to obtain, from the registrar appointed for that part of the United Kingdom in which he resides, upon payment of *Twenty Shillings*, and sending his name and then place of residence, together with a description of his qualification or qualifications, with the date or dates thereof, a certificate as aforesaid, to continue in force until the thirty-first day of December then next ensuing.

9. *Repeal of Restrictions on Practice excepting such as are in this Act.*—And whereas it is just and expedient that all registered persons possessing certificates, in force as aforesaid, should be entitled to practise medicine in that part of the United Kingdom for which their certificates are issued; Be it therefore enacted, that so much of any Act or Charter granted before the passing of this Act as prohibits any person from practising medicine, physic, or surgery, in any place without such licence as is mentioned in any such Act or Charter respectively, or that imposes any restriction or penalty on the practice of medicine, physic, or surgery, further than is contained in this Act, shall be and the same is hereby repealed.

10. *Registered persons entitled to practise where Certificates are issued.*—And be it enacted, that every person who shall be registered, and shall possess a certificate in force, according to the provisions of this Act, shall be entitled, without other licence than such registry and certificate, to practise medicine throughout that part of the United Kingdom for which his certificate was issued.

11. *Registered Practitioners entitled to Charge for Advice, Visits, and Attendance.* And be it enacted, that all persons who shall be registered and possess certificates according to the provisions of this Act, shall be entitled to demand and recover, in any court of law, with full costs of suit, reasonable charges for medical or surgical advice, visits, attendance, and medicines rendered or supplied by them to their patients without any other licence than such registry and certificates.

12. *None but Registered persons to recover Charges.*—And be it enacted, that after the passing of this Act no person

shall be entitled to recover any charge in any court of law or equity for any medical or surgical advice, attendance, or for the performance of any operation, or for any medicine prescribed, administered, or supplied by him, unless he shall prove upon the trial, either that he is in possession of a certificate in force, according to the provisions of this Act, or that he was legally practising in the capacity in which he claims such charge at the time when the debt was incurred.

13. *Repeal of enactment requiring Five years' Apprenticeship to an Apothecary.* (*Fifty-fifth George III., cap. 194, sect. 15.*)—And whereas, by an Act passed in the fifty-fifth year of the reign of King George the Third, entitled, "An Act for better regulating the Practice of Apothecaries throughout England and Wales," it was enacted "that no person shall be admitted to any examination for a certificate to practise as an apothecary unless he shall have served an apprenticeship of not less than five years to an apothecary;" and whereas the said enactment having been found to obstruct the efficient education of students in medicine, it is expedient that the same should be repealed; Be it therefore enacted, that so much of the said recited statute as requires the serving of such an apprenticeship as aforesaid shall be and the same is hereby repealed.

14. *Summary Penalty against Unregistered Practitioners.* (*Fifth Geo. III., c. 194, s. 20.*)—And be it further enacted, that if any person shall, after the first day of January, one thousand eight hundred and forty-eight, act or practise as a physician, surgeon, or apothecary, in any part of Great Britain and Ireland, without being duly registered according to the provisions of this Act, and without having a certificate as aforesaid in force at the time of his so practising or acting as a physician, surgeon, or apothecary, he shall, on conviction before any magistrate having jurisdiction in the county, city, or place where the offence was committed, forfeit and pay a sum not exceeding *five pounds*, nor less than *forty shillings*, for every such offence, to be recoverable within three months next after the commission of the said offence, as is hereinafter described.

15. *Penalty on Unregistered Persons for acting as Medical Officers.*—And be it enacted, that every person appointed after the passing of this Act to any medical or surgical office for which he is not qualified according to the provisions of this Act, and who shall act or practise in such office, shall for every such offence forfeit a sum not exceeding *ten pounds* nor less than *forty shillings*, to be recovered as is hereinafter described.

16. *Expulsion of Registered Practitioners*

tioners for disgraceful conduct.—And be it enacted, that if *five* registered practitioners shall at any time complain to the council of any college or other governing body, that a person who had obtained his diploma or other qualification from such college or body had been conducting himself in a manner calculated to bring scandal and odium on the profession, by publishing indecent advertisements or pamphlets, or immoral or obscene prints or books, or had been guilty of any other disgraceful and unprofessional behaviour, the said council or other governing body aforesaid are hereby empowered to cite the person accused before them, first giving him due notice and a full statement of the charges against him; whereupon the said council or other body, having heard the defendant, and on being satisfied that the charges have been proved, or, in default of his appearance, having decided that the charges have been proved, they are hereby authorized to erase the name of such person from the rolls of the said college or other institution, and shall transmit forthwith to the registrar of that part of the kingdom wherein such college or other institution is situated, an official report of their decision, authenticated by the seal of such college; and the said registrar shall thereupon strike out the name of the offending party from the register in his custody; and it shall ever afterwards be excluded from every register to be kept under the provisions of this Act, unless the council or other governing body by whom the name was first erased shall re-admit it into the rolls of their college or other institution.

17. *Persons not possessing Certificates incapable of acting as Medical Officers in Public and other situations.*—And be it enacted, that from and after the first day of January, one thousand eight hundred and forty-eight, no person who does not possess a certificate in force according to the provisions of this Act, shall be capable of holding any appointment in any part of Great Britain or Ireland in the capacity of a physician, surgeon, apothecary, or other medical officer in any hospital, infirmary, dispensary, lunatic or other asylum, lying-in hospital, gaol, penitentiary, house of correction, house of industry, parochial or union workhouse or poorhouse, parish, union, or other public establishment, body, or institution, or to any friendly or other society for affording mutual relief in sickness, infirmity, or old age; and the certificate or evidence of any person not possessing a certificate as aforesaid, given after the passing of this Act, shall not be received as the certificate or evidence of a physician, surgeon, or apothecary, or medical or surgical practitioner, in any court of law or equity, or in any matter or thing in which by law or

custom the certificate or evidence of a physician, surgeon, apothecary, or medical or surgical practitioner, is or shall be required.

18. *Penalty for the wilful falsification of the Record of Certificates by any Registrar.*—And be it enacted, that if any registrar under this Act shall wilfully make or cause to be made any falsification in any matter relating to any register, certificate, or record aforesaid, every such offender shall be deemed guilty of a misdemeanor; and shall, on conviction thereof, be sentenced to be imprisoned for any term not exceeding six months.

19. *Penalty for obtaining Certificate by False Representations.*—And be it enacted, that if any person shall wilfully procure or attempt to procure a certificate from any registrar, by making or producing, or causing to be made or produced, any false or fraudulent representation or declaration, either verbally or in writing, or shall by any false or fraudulent means whatsoever possess, obtain, use, or attempt to possess, obtain, or use, any certificate as aforesaid, every such person so offending, and every person aiding and assisting him therein, shall, upon being convicted thereof, be adjudged guilty of a misdemeanour in England and Ireland, and in Scotland of a crime and offence; and thereupon it shall be lawful for the court before whom such offender shall be tried and convicted, to sentence such offender to be imprisoned, with or without hard labour, for any period of time not exceeding six calendar months.

20. *Penalty for falsely pretending to be a Medical Practitioner.*—And be it enacted, that every unregistered person who shall wilfully and falsely pretend to be, or take or use the name or title of a physician, doctor, bachelor of medicine, surgeon, or apothecary, or any name, title, addition, or description, implying that he is registered under this Act, or that he is recognised by law as a physician, or surgeon, or apothecary, or a practitioner in medicine or surgery, shall, on being convicted of every such offence before any magistrate having jurisdiction therein, pay a sum not exceeding ten pounds, nor less than forty shillings, to be recoverable as is hereinafter described.

21. *How Penalties are to be recovered: if not paid, the offender may be committed.*—And be it enacted, that any justice of the peace acting in and for the county, city, or place in which the offence has been committed, or any magistrate appointed by virtue of an Act passed in the second and third years of the reign of Her Majesty Queen Victoria, intituled "An Act for regulating the Police Courts of the Metropolis," or one of the justices of peace courts of Scotland may hear and determine any complaint charging any person with practising

medicine without a certificate as aforesaid, on the oath of one or more witnesses, or by the confession of the accused party, and shall award the penalty or punishment herein provided for such offence. And in every case of the adjudication of a pecuniary penalty under this Act, and of non-payment thereof, it shall be lawful for the said justice or magistrate to commit the offender to any gaol or house of correction within his jurisdiction, for a term not exceeding *one calendar month* when the sum does not exceed *forty shillings*, and for a term not exceeding *three calendar months* when the sum does not exceed *ten pounds*, the imprisonment to cease on payment of the sum due.

22. *Application of Penalties.*—And be it enacted, that any sum or sums of money arising from conviction and recovery of penalties for offences committed against the authority and provisions of this Act, shall be paid to the account of the Medical Registration Fund aforesaid, towards defraying the expenses of this Act.

23. *Uniformity of Education, Qualification, and Fees, throughout the Kingdom.*—And be it enacted, that the several colleges and other examining bodies shall from time to time prepare and lay before the said Secretary of State a scheme or schemes, including the subject of midwifery, of the course of study, and particulars of the examination, to be passed by all persons applying to such colleges and other bodies respectively for letters testimonial as a physician or surgeon, or apothecary, and also an account of the fees proposed to be taken by the said colleges and bodies respectively for such letters testimonial. And whereas it is expedient and desirable that the qualifications and fees for the said testimonials should be uniform, according to the nature thereof, throughout Great Britain and Ireland, such schemes or accounts as aforesaid shall be of no force or effect until they shall have been submitted to Her Majesty in Council, and shall have received Her Majesty's sanction and approval.

24. *Inspection and Supervision of Examinations.*—And be it enacted, that the said Secretary of State may from time to time require returns to be made in such form, and including such particulars, as he shall think fit, respecting the examinations to be conducted for medical degrees, diplomas, and licenses; and it shall be lawful for any person deputed by the said Secretary of State, being a physician, surgeon, or apothecary, registered under this Act, to be present at any of the said examinations, and to report to the said Secretary of State, and if he shall be of opinion that the regulations approved by Her Majesty in Council for the examination and grant of letters testimonial

as physician, surgeon, or apothecary, have been infringed, evaded, or neglected, by any of the examining bodies, it shall be lawful for the said Secretary of State to admonish the said offending body; and if such admonition be neglected, then to direct the registrars as aforesaid to refuse to register upon the testimonials of the body so in default, until the conduct of such body shall be altered to the satisfaction of the said Secretary of State.

25. *Examiners may take Candidates to Hospitals, &c. for practical Examinations.*—And be it enacted, that the duly appointed examiners of candidates for degrees, diplomas, and licenses in medicine, shall be empowered, under such regulations and restrictions, and at such times, as shall be approved by the Secretary of State as aforesaid, to attend with the candidates for examination in the public hospitals, or other public institutions containing sick and diseased persons, and also in any workhouse, with the view of ascertaining the practical knowledge of such candidates in the science of medicine.

26. *Act not to affect Examinations of Students of Two Years' Standing.*—And be it enacted, that students in medicine who at the time of the passing of this Act shall have been engaged two years and upwards in attending lectures in any medical school, or the practice of a public hospital or other institution, in conformity with the regulations of any college having power to confer degrees or diplomas in medicine or surgery, shall not be affected, while completing their studies, or in passing their examinations, by anything in this act contained; but such students shall be entitled to complete their education and undergo their examinations as though this act had not been passed.

27. *Act not to extend to Dentists or Cuppers in business before 1st March, 1847.*—And be it enacted, that not anything in this act contained shall extend or be construed to extend to the profession or business of any dentist or cupper who was engaged in such profession or business on or before the first day of March, one thousand, eight hundred, and forty-seven; but every such dentist or cupper shall conduct such profession or business in as free and ample a manner as though this Act had not been passed.

28. *Act not to affect the trade or business of Chemists and Druggists.* (55 Geo. III. c. 194, s. 28).—Provided always, and be it further enacted, that nothing in this Act contained shall extend, or be construed to extend, to prejudice or in any way to affect the trade or business of a chemist and druggist, in the buying, preparing, compounding, dispensing, and vending

drugs, medicines, and medicinal compounds, wholesale or retail; but all persons using or exercising the said trade or business, or who shall or may hereafter use or exercise the same, shall and may use, exercise, and carry on the same trade or business in such manner, and as fully and amply, to all intents and purposes, as the same trade or business was used, exercised, or carried on by chemists and druggists before the passing of this Act.

29. *Registered Medical Practitioners exempted from serving on Juries, Inquests, &c.*—And be it enacted, that every person who shall be registered and possess a certificate in force under the provisions of this Act, shall be exempt, if he shall so desire, from serving on all juries and inquests whatsoever, and from serving all corporate, parochial, hundred, and township offices, and in the militia, and that the name of such person shall not be returned in any list of persons liable to serve in the militia, or in any such office as aforesaid; and no person shall be entitled to such exemption as aforesaid on the ground of being a physician, surgeon, or apothecary, who does not possess such certificate then in force as aforesaid.

30. *Names of Criminal Practitioners to be erased from the Register.*—And be it enacted, that if any registered physician, surgeon, or apothecary, shall be convicted, in England or Ireland, of any felony, or in Scotland, of any crime or offence incurring infamy, or the punishment of death or transportation, or if it shall be found, by the judgment of any competent court, that any such physician, surgeon, or apothecary, shall have procured a certificate under this Act by any fraud or false pretence, or that any such physician, surgeon, or apothecary, has wilfully and knowingly given any false statement, evidence, or certificate, in any case in which by law the evidence or certificate of a physician, surgeon, or apothecary is required, every registrar, on the production before him of an office copy or extract of the conviction or judgment of the court, duly certified under the hand of the proper officer of the court, or other proof thereof, shall cause the name of such physician, surgeon, or apothecary, to be erased from the register; and every person whose name shall have been so erased after such conviction or judgment as aforesaid, shall thereby forfeit and lose all the privileges of a registered medical practitioner provided by this Act.

31. *Interpretation Clause.*—And be it enacted, that the words "Medicine" and "medical," when used in this Act, shall also mean and include the words "Physic," "Surgery," and "surgical."

32. *Act may be amended.*—And be it enacted, that this Act may be amended or repealed by any Act to be passed in this session of parliament.

SCHEDULES TO WHICH THIS ACT REFERS.

SCHEDULE (A.)

Declaration required of a person who claims to be registered as an Apothecary upon the ground that he was in practice as an Apothecary before the first day of August, 1815.

To the Medical Registrar for England.

I, [Samuel Baker,] residing at [6, Duke Street, Exeter,] in the county of [Devon], hereby declare that I was practising as an Apothecary at [16, George Street, Hastings], in the county of [Sussex,] before the 1st day of August, 1815.

(Signed) [Samuel Baker.]

Dated this [6th] day of [October,] 1847.

SCHEDULE (B.)

THE MEDICAL REGISTER FOR ENGLAND.

Medical Registration Certificate for 184 .

By virtue of the powers vested in me by an Act of Parliament passed in the tenth year of the reign of Her Majesty Queen Victoria, intituled "An Act for the Registration of Qualified Medical Practitioners, and for amending the law relating to the Practice of Medicine in Great Britain and Ireland;"

I hereby certify that
(JAMES HOWARD,) Residing at (No. 15, Ormond Street, Manchester,) in the county of (Lancaster,) having produced, before me, the Diploma of (The Royal College of Physicians of London,) granted to him April 18th, 1840, as (A Fellow of that College,) and also the Diploma of (The Royal College of Surgeons of England,) bearing date August 1st, 1830, and granted to him as (A Member of that College,) he has been duly registered, according to the provisions of the said Act, as a person who is Qualified to practise Medicine in any part of (England and Wales,) and that he is entitled to exercise all the powers and privileges conferred by the said Act.

This certificate to remain in force until the 31st day of December, (1849,) and no longer.

(Signed) [Henry Brown.]
Medical Registrar for England.

Dated, London, 6th October 184 .

SCHEDULE (C.)

THE MEDICAL REGISTER FOR (ENGLAND,)

Consisting of the Names, and Places of Residence (arranged alphabetically,) with a Description of the Qualifications, and the dates thereof, of all Persons legally qualified to practise Medicine in (England) in the year 184 .

THE NAMES OF REGISTERED MEDICAL PRACTITIONERS, ARRANGED ALPHABETICALLY.

NAMES.	QUALIFICATIONS, AND THEIR DATES.	PLACES OF RESIDENCE.
Addison, James Price . .	Diploma as a Fellow of the Royal College of Physicians of London, dated 9th Aug. 1836.	No. 16, Tudor Street, Manchester.
Adlard, Hugh	Diploma as a Member of the Royal College of Surgeons of England, dated 4th January, 1822. Licence of the Society of Apothecaries, London, dated 7th March, 1822.	No. 7, Milton Street, Hanover Square, London.
Admonds, Richard . . .	Licence of the Society of Apothecaries, London, dated 11th June, 1834.	No. 19, Millsom Street, Exeter.
Adney, Ralph	Diploma as a Fellow of the Royal College of Surgeons of Ireland, dated 13th October, 1827.	No. 54, Holland Street, Liverpool.
Adpart, Edmund	Diploma as a Fellow of the Royal College of Surgeons of Edinburgh, dated April 16th, 1819.	No. 40, Tolville Street, Leeds.
Adwin, Gilbert	Declaration, as required by law, of having practised as an Apothecary before 1st August, 1815.	The Grove, Camberwell, Surrey.

THE PLACES OF RESIDENCE OF REGISTERED MEDICAL PRACTITIONERS, ARRANGED ALPHABETICALLY.

PLACES.	NAMES AND ADDRESSES.
Bristol	Adams, Edward, No. 24, Somerset Square. Bothwell, James George, No. 1, Thomson Street.
Caversham	Chant, Thomas, Mortimer Terrace. Matthews, William, Thames View.
Dudley	Frimley, Abel, No. 6, Manchester Street. Noble, George Frederick, No. 64, New Square.
Kingston-upon-Hull . .	Andrews, Walter, No. 13, Humber Street. Dornton, John, No. 9, Albion Street.
Liverpool	Edwards, Michael, No. 3, York Place. Smith, John, No. 88, Vauxhall Road.
Portsmouth	Trinder, Charles, No. 10, Manchester Square. Williams, William, No. 37, Birkenhead Street.
	Atkins, Charles, No. 14, Mary Street. Bryant, William, No. 6, Wilmot Street. Clipman, Howard, No. 34, Anchor Terrace.

REPORT OF THE PATIENTS TREATED AT THE
BLOOMSBURY DISPENSARY, GREAT RUSSELL STREET, BETWEEN APRIL 2, 1846,
AND APRIL 7, 1847.

THE Committee having desired that the medical officers should be prepared to lay before this meeting a report of the patients treated at the Dispensary during the past year, we have had much pleasure in endeavouring to meet their wishes, although we fear that the details will be found more tedious than interesting.

Cured or relieved	2,366
Died	63
Remained under treatment . .	470
Total	2,899

Visited at their own houses, 481.

One of the most common complaints met with among the poor of this district is a febrile disorder, generally of a mild kind, but occasionally taking the characters of low or typhoid fever. A large proportion of these patients reside in badly-ventilated localities, and the symptoms (there can be no question) are mainly the result of atmospherical impurities. Sixty-eight examples of this affection were received last year, viz. 21 in the first quarter, 29 in the second, 12 in the third, and 3 in the fourth. Several of the worst cases of fever were removed to the Fever Hospital. We are happy to have this opportunity of testifying to the liberality of that excellent establishment in receiving these patients without the usual order of admission. The epidemic disorders of the last quarter were of an unusual description. Erysipelas prevailed in some parts of the district, chiefly infecting the close and filthy streets. It occasionally attacked several persons in the same family, not sparing even children and infants. It is now seen in the more open neighbourhoods.

132 patients were admitted with disorders of the brain or nervous system.

50 with diseases of the eye.

140 with affections peculiar to females.

67 venereal diseases and their results.

56 eczema of the scalp, or scald head.

142 cutaneous affections.

190 accidents—including fractures, contusions, and burns.

89 ulcers and abscesses.

There are two houses in Whetstone Park where there has been sickness of some kind for the greater part of the year. The first patient seen in this place had fever; then two children of a family, only recently removed there, took this disorder most severely. On the ground-floor a girl had erysipelas of the head and face, and shortly afterwards her mother had the same com-

plaint. Other persons were variously affected in these houses.

Upon inquiring into the cause of this unusual amount of disease in this spot, when the surrounding district was comparatively healthy, it was found that the privies of these houses were in a most filthy condition. This nuisance having been removed, the fever and erysipelas were arrested.

But it would be a great mistake to suppose that febrile affections alone are to be included in the catalogue of disorders caused by atmospherical contaminations. Those who for a considerable period breathe this polluted air have their health and strength insensibly broken down, and are unable to resist even the common exciting causes of disease. It is on this account that the poorer classes of the metropolis are so liable to pectoral disorders, and to indigestion; and that they are so often attacked with acute inflammation, and, at the same time, unfitted to bear the remedies necessary for its removal. Under the same pernicious influence, scrofula is engendered; and, in short, it would be hardly possible to state the number of persons brought to the Dispensary whose complaints are the consequence of breathing an atmosphere not suited for the purposes of respiration.

There are other sources of disease among the poor arising from their own habits. A want of personal cleanliness is one of these; that, considering their present condition, can hardly excite surprise. Ignorance or carelessness in regard to diet also brings many patients to the Dispensary. Intemperance is a great evil, that undermines the health, and degrades the characters of too many of this class. There is reason to hope, however, that this practice is on the decline. With the view of ascertaining the effect of habitual intemperance on health, a mark was placed opposite the names of the patients when it could be ascertained upon certain evidence that, at some period of their lives, they had been accustomed to excess of stimulating drinks. The number was 60. All these persons, except 9, were more than 40 years old: 15 were consumptive; 7 had diseased kidneys; 4 had liver disease; 2 were paralytic; 3 had delirium tremens; 1 insanity; 8 had vertigo, tremors, or epilepsy; 12 suffered from indigestion; and 8 from bronchitis.

In conclusion, we beg to apologise for the length of this report. We were anxious that the supporters of this charity should be made acquainted with the benefits which it extends to the poor of this neighbourhood. We were also desirous to state such facts as might be of some avail to those who are at this time strenuously labouring to improve the con-

dition of the humbler classes. If a portion of the evils by which they are oppressed is due to themselves, it is undeniable that a much larger portion is entirely beyond their control; and each day brings fresh proof that by wise and efficient sanitary enactments, much of the sickness might be eradicated that now falls so heavily on the poor.

R. ROWLAND, M.D.

9, Woburn Place,
GEORGE L. COOPER, F.R.C.S.
35, Keppell Street, Russell Square.

ROYAL SEA BATHING INFIRMARY, MARGATE.

At a Quarterly General Meeting of the Governors of this Infirmary the officers for the ensuing year were re-elected, the only change being that John Dixon, Esq. was added to the list of Directors. It was announced that the Infirmary would be opened for patients on the 12th of May, and that the charge would be for adults five shillings, and for children four shillings a week. The following resolution passed at the previous meeting was not confirmed.

"That, with a view of assisting the Resident Surgeon, Mr. Field, in the discharge of his duties amongst the in-patients of the Royal Sea-Bathing Infirmary, there be appointed three gentlemen, to be chosen out of the medical practitioners of the Isle of Thanet, and to be called visiting surgeons, whose duty it shall be to visit the Infirmary at fixed periods on certain days in each week, to go through the wards with the resident surgeon, and to consult with him upon the treatment to be resorted to in any particular case requiring extraordinary surgical aid."

The number of patients admitted into the Infirmary last year amounted to 700.

THE LONDON HOSPITAL—ANNIVERSARY MEETING.

THE anniversary festival of this institution, founded in 1740, was celebrated on the 22d inst., at the London Tavern, Bishopsgate-street. His Royal Highness the Duke of Cambridge presided on the occasion, supported by Lord Robert Grosvenor, Mr. William Cotton, Sir J. H. Pelly, Bart., Sir E. N. Buxton, Bart., Mr. John Davis, Mr. Muir, Mr. William Davis, Mr. Joseph Fry, jun., Mr. Nicholas Charrington, Mr. John Allcard, Mr. Robert Hanbury, jun., and Mr. Henry E. Gurney. His Royal Highness, in proposing prosperity to the Hospital, stated, that from the immense increase in the sphere of its usefulness, particularly in relieving cases of severe accidents, the funds of the charity had become inadequate to meet its expenses. He stated

that there were at present 800 more patients annually accommodated in the wards of the Hospital than in 1836; and that in the same period the number of out-patients annually relieved had increased from 9,113 to 15,485. His Royal Highness made a strong appeal to the company on behalf of the institution; and from the result of the secretary's report, it would appear not in vain, for at the close of the evening's festivities the subscriptions had reached the very handsome sum of £4,800. To that amount Sir E. North Buxton, chairman of the House Committee, contributed by his list upwards of £1,000. The late Mr. Byng had also left a legacy to the hospital of £1,000, and the late Mr. Ward a bequest of £500.

ROYAL COLLEGE OF SURGEONS—PRESENT TO A FOREIGN MEMBER.

A FEW months ago a gentleman of the name of Kayat, a native of Syria, presented himself, in company with two natives of Calcutta, as a candidate for the diploma of this college. They were all so fortunate as to obtain the object of their ambition, a notice of which appeared in *The Times*; since which, the Council of this College, on being informed that Mr. Kayat had merely pursued the study of the medical profession as an amateur, and had moreover at his own expense brought over four Syrians to study in this country, have with great liberality just presented to that gentleman the whole of their valuable works handsomely bound, with the following inscription in each volume, signed by the President—viz. "Presented to Assaad Yacoob Kayat, of Beyrout, by the Council of the Royal College of Surgeons of England, in testimony of their appreciation of his zeal and industry in having as an amateur student obtained the diploma of this college, and at his own expense sent four young Syrians to this country for the purpose of studying surgery." Mr. Kayat is also a member of the Council of the Syro-Egyptian and other scientific societies.

KING'S COLLEGE, LONDON.

THE distribution of prizes and certificates of honour in the medical department of King's College took place on Saturday, the 24th inst. at 3 o'clock.

The hall of the college was crowded on the occasion with the students and their friends. Among the visitors were his Royal Highness the Duke of Cambridge, the Bishop of Chester, Lord Eldon, Sir R. H. Inglis, and several other persons of distinction. In the absence of his Grace the Archbishop of Canterbury, the chair was taken by the Bishop of London, who having shortly stated the object for which the

meeting was assembled, distributed the rewards.

From the report read by the Dean of the Medical Department, the medical school of the college appears to be in a most efficient and satisfactory condition.

After a vote of thanks to the Bishop of London, moved by his Royal Highness the Duke of Cambridge and seconded by Lord Eldon, the proceedings terminated.

A HOMEOPATHIC PRESCRIPTION FOR HABITUAL CONSTIPATION.

THE following curious document has been forwarded to us by a correspondent; it is a remarkable specimen of infinitesimal polypharmacy:—

Mrs. —
 R. Opium, $\frac{3}{8}$ 1
 Plumb carb., $\frac{3}{8}$ 2
 Nux Vom., $\frac{1}{12}$ 3
 Igratia, $\frac{3}{8}$ 4
 Sulph., $\frac{3}{8}$ 5
 Sulph., $\frac{3}{8}$ 6
 Licopod., $\frac{3}{8}$ 7
 Graphite, $\frac{3}{8}$ 8
 Nux Vom., $\frac{1}{12}$ 9
 Igratia, $\frac{3}{8}$ 10
 Sulph., $\frac{3}{8}$ 11
 Sulph., $\frac{3}{8}$ 12

Capiat j. quaque 4ta. nocte, R. Nux Vom. 6 gtt. ij., Aquæ destill. ζ iv. m., Capiat cochlearij. medium omni nocti.

J.C.

Each dose is separately marked 1, 2, 3, 4, in the form of powder; No. 1 being taken the first night, No. 2 on the 4th night after that, &c. It was prescribed for a lady by a regular homeopathic physician!

IS NUX VOMICA A POISON?

By a law passed in France in October 1846, a druggist (*pharmacien*) was prohibited from selling poisons under certain penalties. A list of the prohibited poisons was published, but strangely enough nux vomica was omitted from this list. A druggist recently sold nux vomica to some persons for the purpose of poisoning birds. He was charged under the law, but it was found on reference to the list that nux vomica was not included among poisons: hence he was discharged. It is stated that, in the Sanitary Commission by which this list of poisons was prepared, there was not a single member acquainted with medicine or pharmacy!

APPARENT DEATH.

THE *Union Médicale* reports that a woman, whose death had been legally certified to the civil authorities at Croix Rousse, near Lyons, after having remained in a state of lethargy for twenty-four hours, suddenly re-

turned to life, to the great astonishment of those who were watching the supposed corpse prior to the funeral. A few hours later, and she would have been buried alive!

. Admitting the truth of this report, the only fact which we learn from it is, that those who are appointed to grant certificates of death in France, are either very ignorant or very neglectful of their duties.

ADULTERATED FLOUR.

IN consequence of the scarcity of grain in Belgium, the flour has been very extensively adulterated with plaster of Paris. A large quantity of this flour has been seized; and owing to this fraud a rumour was circulated that the bread sold to the public was poisoned. A young female at Mons died soon after she had eaten a portion of the adulterated bread. An inspection of the body was ordered by the authorities, but the result did not transpire.

ACTION OF AIR ON THE JUICES OF PLANTS.

THE action of the air upon the vegetable juices is often very striking, changing their colours, and even their chemical composition. Thus the root of the madder, the cells of which are filled with a yellowish juice, when wounded, become reddened. Pure oxygen will not effect this: it requires the presence of aqueous vapour. Many of the large fungi called *boletii*, which are naturally white, when wounded turn blue, green, or black; in the *B. cyanescens* a deep indigo. The colourless juice of *euphorbia* is rendered opaque and white when exposed to air; that of the *chelonium* yellow. The tannic acid which many plants contain probably affects the colour of structures considerably at periods long after they have completed their various vital functions. —*Henfrey's Botany*, 228.

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted members on Friday, April 23, 1847:—G. F. Jones.—T. J. T. Williams.—W. D. Eddowes.—J. W. Hubbard.—J. L. Worship.—T. Armstrong.—A. R. H. Podmore.—A. S. Willocks.—J. Ferguson.—W. H. Baylis.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination, and received certificates to practise on Thursday, April 22, 1847:—Morgan Thomas, Vale of Neath, Glamorganshire.—Henry Turner, Sherborne, Dorset.—Herbert Shelley, Epsom.—Charles Thomson, Salisbury.—Peter Ede, Blofield, Norfolk.—Geo. Hother, Lewes, Sussex.—George Browne, Reading, Berks.

Selections from Journals.

NATURE OF THE COLOURING MATTERS OF THE BLOOD AND OF THE BILE.

BY M. POLLI.

THE results of investigations into the nature and properties of the colouring matter of the blood, and that of the bile, have led M. Polli to the following conclusions :—1. The yellow colouring matter of the bile, and the red colouring matter of the blood, are essentially one and the same substance, only in different states of oxydation. 2. The occasionally green and occasionally yellow colour of the bile contained in fecal evacuations, the different tints of the skin in jaundice, and the changes in colour which an ecchymosis undergoes, are circumstances which are all dependent on different states of oxydation of the colouring matter. 3. The red colouring matter of the blood is transformed into yellow during its retrograde metamorphosis, so that the yellow colouring matter is really hæmatin, which has performed its functions in the body and has now become excrementitious. 4. The yellow or greenish-yellow colour of the blood-serum, the orange-yellow colour of the urine, the more or less yellow tint of the skin in jaundice, and possibly also the greenish yellow appearance observed in chlorosis, are all due to the presence of colouring matter of the blood in greater or less abundance, and in a higher or lower degree of oxydation. 5. The colourless urine and pallid complexion of anæmic persons, as also the small relative quantity of red corpuscles in the blood of those affected with jaundice, confirm the above view, and lead to the supposition that the more or less yellow appearance presented by hectic and dropsical patients, and more especially by those who are the subjects of that form of jaundice which is apt to be induced by purulent absorption after important surgical operations, is also the result of an analogous change in the blood-corpuscles, or in their hæmatin. 6. The yellow colouring matter appears to be formed, in part, within the general vascular system, through a direct metamorphosis of the hæmatin of the blood-corpuscles; this metamorphosis takes place slowly in healthy persons, but rapidly in jaundiced ones. In both cases a corresponding quantity of the colouring matter is voided with the urine. The other part of the yellow colouring matter is formed in the liver from the blood or its colouring matter; this seems to be effected by a process of reduction whereby the colouring matter of the blood is reduced to a lower state of oxydation than it possessed before. —*Heller's Archiv.* vol. 3.

ACT FOR THE PROTECTION OF EMPIRICS.

THE following extract from an ancient Act of Parliament (14th and 15th Henrici Octavi, cap. viii.) may prove a useful precedent to those legislators who aim at the establishment of free trade in medicine :—

“Whereas, in the Parliament holden at Westminster in the third year of the King's most gracious reign, amongst other things, for the avoiding of sorceries, witchcraft, and other inconveniences, it was enacted, that no person within the city of London, nor within seven miles of the same, should take upon him to exercise and occupy as a physician or surgeon, except he be first examined, approved, and admitted by the Bishop of London and others, under and upon certain pains and penalties in the same Act mentioned. Sithence the making of such Act, the Company and Fellowship of Surgeons of London, minding only their own lucre, and nothing the profit or ease of the diseased or patient, have sued, troubled, and vexed several honest persons, as well men as women, whom God hath endued with the knowledge of the nature, kind, and operation of certain herbs, roots, and waters, and the using and ministering of them to such as be pained with customable diseases, as women's breasts being sore, a pin and web in the eye, uncomes of hands, scaldings, burnings, sore mouths, the stone, stranguary, sauceline, and morphew, and such other like disease; and yet the said persons have not taken anything for their pains or cunning, but have ministered the same to the poor people only for neighbourhood and God's sake and charity. And it is now well known that the surgeons admitted will do no cure to any person but where they shall know to be rewarded with a greater sum or reward than the cure extended unto; for, in case they would minister their cunning to sore people unrewarded, there should not so many rot and perish to death for lack of surgery as daily do; but the greater part of surgeons admitted be much more to be blamed than those persons they trouble. . . . In consideration whereof, and for the ease, comfort, succour, help, relief, and health of the King's poor subjects, inhabitants of this realm, now pained, or that hereafter shall be pained or diseased, be it ordained, established, and enacted, of this present Parliament, that at all time henceforth it shall be lawful for every person, being the King's subject, having knowledge or experience of the nature of herbs, roots, and waters . . . to minister in and to any outward sore, uncome, wound, imposthumations, outward swellings, or disease, any herb or herbs, ointments, baths, poultices, and plasters, according to their cunning, experience, and knowledge,” &c. &c.

OBITUARY.

DR. ORDINAIRE.

At Maizières, near Besançon, on the 7th inst., Dr. D. Ordinaire, in the 74th year of his age. The deceased was Professor of the Faculty of Sciences at Besançon in 1809, Rector of the Academy of Strasburgh in 1825, and Director of the Royal Institution of the Deaf and Dumb at Paris, in 1830.

DR. VON RAIMANN.

At Vienna, on the 8th March, the Ritter von Raimann, Chief Physician to the Emperor of Austria.

FORBES MACBEAN CHEVERS, ESQ.

DIED, on the 21th inst., at his residence, No. 26, Upper Stamford Street, Forbes Macbean Chevers, Esq. retired Surgeon, R.N. in his 74th year.

The deceased officer was Assistant-Surgeon of the *Phæton* at the capture of the French frigate *Prompte*, and in the battle of the 1st of June; Surgeon of the *Hydra* in action with the *Confiance* French frigate, and destruction of the *Vesuve* corvette; of the *Tamar* at the capture of the French frigate *Republicaine*; in the *Robust*, cutting out the *Cheverette*, in the *Tonnant* at Trafalgar, and in the *Implacable*, at the destruction of a Russian ship of the line, and a flotilla, in the Baltic; Surgeon of Le Caton Prison-Hospital-Ship, Plymouth, from 1811 to 1814. During the latter years of his active service, Mr. Chevers held the appointment of Surgeon to the Flag-Ship at Portsmouth, under the command of Sir R. Stopford, Sir T. Foley, and Sir T. Williams. The date of Mr. Chevers's promotion to the rank of Surgeon was May, 1795.

BIRTHS & DEATHS IN THE METROPOLIS
During the week ending Saturday, April 17.

BIRTHS.	DEATHS.	Ar. of 5 Spr.
Males.... 694	Males.... 493	Males.... 468
Females.. 644	Females.. 488	Females.. 446
1338	981	914

DEATHS IN DIFFERENT DISTRICTS.

(34 in number;—Registrars' Districts, 129.
Population, in 1841, 1,915,104.)

WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326)	139
NORTH—St. Marylebone; St. Pancras; Islington; Hackney .. (Pop. 366,303)	199
CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London .. (Pop. 374,759)	174
EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar .. (Pop. 393,247)	197
SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich .. (Pop. 479,469)	272
Total	981

CAUSES OF DEATH.

ALL CAUSES.....	981	Spring av. 914
SPECIFIED CAUSES.....	981	909
1. Zymotic (or Epidemic, Endemic, Contagious) Diseases ..	139	106
<i>Sporadic Diseases, viz.—</i>		
2. Dropsy, Cancer, &c. of uncertain seat	109	90
3. Brain, Spinal Marrow, Nerves, and Senses	167	154
4. Lungs and other Organs of Respiration	322	373
5. Heart and Bloodvessels	54	29
6. Stomach, Liver, and other Organs of Digestion	60	70
7. Diseases of the Kidneys, &c.	9	8
8. Childbirth, Diseases of the Uterus, &c.	17	10
9. Rheumatism, Diseases of the Bones, Joints, &c.	13	8
10. Skin, Cellular Tissue, &c.	5	2
11. Old Age	54	57
12. Violence, Privation, Cold, and Intemperance	23	28

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	12	Convulsion.....	37
Measles	6	Bronchitis	66
Scarlatina	12	Pneumonia.....	37
Hooping-cough..	32	Phthisis	151
Typhus	29	Dis. of Lungs, &c.	11
Dropsy.....	19	Teething.....	10
Sudden deaths ..	5	Dis. Stomach, &c.	8
Hydrocephalus..	42	Dis. of Liver, &c.	16
Apoplexy.....	22	Childbirth	10
Paralysis.....	25	Dis. of Uterus, &c.	2

REMARKS.—The total number of deaths was 67 above the spring average. Bronchitis is unusually prevalent in a fatal form, and has tended to raise the general mortality from diseases of the lungs considerably above the average.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer	29.74
“ “ Thermometer.....	47.6
Self-registering do. ^b max. 82° min. 44.5°	
“ in the Thames water ..	47.8 — 45.5
^a From 12 observations daily. ^b Sun.	

RAIN, in inches, .32: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was no less than 6.3° below the monthly mean, indicating a very unusual depression of the thermometer for the season of the year. This was owing to the prevalence of northerly winds.

NOTICES TO CORRESPONDENTS.

JACKSONIAN PRIZES.—One of these prizes was awarded to Dr. Edward Hulme, of Exeter, Devon, and not to Mr. Edward Hulme, as stated in our last number.

The communications of Mr. J. Birkett, Dr. Whittle, and Mr. Davy, will appear in the following number.

Retired.—Dr. G. A. Rees; Mr. Levison, Brighton; Royal Maternity Charity.

Lectures.

LECTURES
ON THE

DISEASES OF INFANCY AND
CHILDHOOD,

Delivered at the Middlesex Hospital,

By CHARLES WEST, M.D.

Physician-Accoucheur to, and Lecturer on Midwifery at, the Middlesex Hospital, and Senior Physician to the Royal Infirmary for Children.

LECTURE I.

INTRODUCTORY.—*Causes of peculiarities presented by diseases in childhood—These peculiarities are reasons for their special study—Difficulties of the study, and how to overcome them—Rules for the examination of sick children, and for taking notes of cases.*

General plan and objects of the Course.

GENTLEMEN,—It is not without hesitation that I have determined on adding another to the already numerous courses of lectures that you are called on to attend while engaged in the study of medicine. My reasons—and I trust my justification—for so doing are furnished partly by the frequency of the diseases of infancy and childhood, partly by their fatality, but still more by their many peculiarities.

Children will form at least a third of all your patients, and so serious are their diseases, that one child in five dies within a year after birth, and one in three before the completion of the fifth year. These facts, indeed, afford conclusive arguments for enforcing on you the importance of closely watching every attack of illness that may invade the body while it is so frail, but they alone would scarcely be adequate reasons for my bringing these diseases under your notice as objects for special study.

The body, however, is not only more frail in infancy than it becomes in after life, but the sympathies between its different parts are more extensive and more delicate. One organ seldom suffers alone, but the effects even of local disease extend to the whole system, and so disorder its workings that it is often no easy matter to determine the seat of the original mischief. Nor is this all; but many important consequences result from the period of childhood being one of unceasing development. In the adult the structure of the body is complete, and its functions are the same to-day as they were yesterday, but the child learns successively to breathe, to feel, to think; and its body is

daily undergoing modifications to fit it for new duties, as well as daily growing in size and strength. Disease, therefore, not merely disturbs the present, but its influence reaches to the future; it not only interrupts the present function of the organ that is affected, but it puts a stop for a time to the completion of the general machinery of the body, or disarranges the due proportion of one part of that machinery to another. Moreover, there are periods, namely, those of the first and second dentition, when very great changes take place in the organism of the child, and when all these dangers are especially to be feared. Disease is then frequent and serious beyond what it is at other times, and every ailment then warrants a double measure of anxiety; while, on the other hand, if these epochs are safely passed, there succeeds a season of comparative immunity from many affections that before were both common and perilous.

But, if this be so, you will at once perceive that something more is essential to the successful treatment of children's diseases than to watch their advances carefully, and to adapt the strength and doses of your remedies to the tender years of your patients. It is not mere hyperbole to say that you have to study a new semeiology, to learn a new pathology, and new therapeutics. Matters of such importance cannot be properly examined at the end of a course of lectures on midwifery. I have therefore preferred making them the subjects of separate consideration this summer, when the comparative leisure of the season will, I hope, enable some among you to study the diseases of children not only in the lecture-room, but also in the large field for their observation which you will find at the Children's Infirmary.

I must warn you, however, of one difficulty which you will encounter at the very outset,—a difficulty that disheartens many, and makes them abandon in despair the study of children's diseases. Your old means of investigating disease will here to a great degree fail you, and you will feel almost as if you had to learn your alphabet again, or as if, entering a country whose inhabitants you expected to find speaking the same language, and having the same manners as the people in the land you had lately left, you were to hear around you everywhere the sounds of a foreign tongue, and to observe manners and customs such as you had never seen before. You cannot question your patient; or if old enough to speak, still, through fear, or from comprehending you but imperfectly, he will probably give you an incorrect reply. You try to gather information from the expression of his countenance, but the child is

fretful, and will not bear to be looked at; you endeavour to feel his pulse, he struggles in alarm: you try to auscultate his chest, and he breaks out into a violent fit of crying.

Some practitioners never surmount these difficulties, and the diseases of children are consequently a sealed book to them. After a time they grow satisfied with their ignorance, and will then with the greatest gravity assure you that the attempt to understand these affections is useless. They have fallen into this unfortunate error from not taking the pains to start aright: they have never learned how to interrogate their little patients, and hence they have never received satisfactory replies. I speak of interrogating them; for though the infant cannot talk, it has yet a language of its own, and this language it must be your first object to learn, if you mean ever to acquire the character of successful practitioners in the diseases of children. But, if you have not cultivated your faculties of observation, you cannot learn it, for it is a language of signs, and these signs are such as will escape the notice of the careless; if you are not fond of little children you cannot learn it, for they soon make up their minds as to who loves them, and when ill they will express their real feelings, whether by words or signs, to no one else.

There is, moreover, a certain tact necessary for successfully investigating the diseases of children. If, when summoned to a sick child, you enter the room abruptly, and, going at once to your patient, you begin to look closely at it, while at the same time you question the mother or nurse about its ailments in your ordinary pitch of voice, the child, to whom you are a perfect stranger, will be frightened, and begin to cry; its pulse and respiration will be hurried, its face will grow flushed, and you will thus have lost the opportunity of acquainting yourself with its real condition in many respects. Besides this, the child's alarm, once excited, will not subside so long as you are present: if you want to see its tongue, or auscultate its chest, its terrors will be renewed, and it will scream violently; you will leave the room little wiser than you entered it, and, very likely, fully convinced that it is impossible to make out children's diseases.

Very different would be the result if you conducted this examination properly; and though I believe where there is real love for children the tact necessary for examining into their ailments would not be long in being acquired, still, a few hints on this subject will not be out of place in an introductory lecture.

The quiet manner and the gentle voice which all who have been ill know how to value in their attendants, are especially

needed when the patient is a child. Your first object must be not to alarm it; if you succeed in avoiding this danger it will not be long before you acquire its confidence; do not, therefore, on entering the room, go at once close up to the child, but sitting down sufficiently near to watch it, and yet so far off as not to attract its attention, put a few questions to its attendant. While doing this, you may, without seeming to notice it, acquire a great deal of important information; you may observe the expression of the face, the character of the respiration, whether slow or frequent, regular or unequal, and if the child utter any sound you may attend to the character of its cry. All your observations must be made without staring the child in the face; little children, especially if ill, seem always disturbed by this, and would be almost sure to cry. If the child be asleep at the time of your visit, your observations may be more minute: the kind of sleep should be noticed, whether quiet or disturbed, whether the eyes be perfectly closed during it, or partly open as they are in many cases where the nervous system is disordered: you may too, if the sleep seem sound, venture to count the frequency of the respiration, and the beat of the pulse, but in doing this you should be careful not to arouse the child. It should be awoke gently by the nurse or mother, and a strange face should not be the first to meet its eye on awaking. If it were awake when you entered the room, it will probably in a few minutes have grown accustomed to your presence, and will allow you to touch its hand, and feel its pulse. This must always be done at as early a period in your visit as possible, in order that you may count it while the child is undisturbed, since the pulsations of the heart vary, in young children, as much as 20 in a minute under comparatively slight disturbing causes, and any inferences that you might draw from the pulse of the child, when frightened or excited, would almost certainly be erroneous. Besides the pulse, the frequency of the respiration should, if possible, be noticed, since the results obtained by a comparison of the two are always more valuable than those of either taken alone. But if this be your first visit to the child, do not, for the sake of ascertaining either of these points exactly, persevere in attempts which irritate or frighten it; probably you would, after all, be unsuccessful, and even though you were to succeed, the knowledge would not repay you for the loss of the child's confidence, which it must be your grand object to acquire and to keep.

With management and gentleness, however, you will comparatively seldom fail, and while you are feeling the pulse, or, with the hand on the abdomen, are counting the

frequency of the inspirations, you would also learn the temperature of the body and the condition of the skin. Supposing your examination has thus far been pretty well borne, you may now, probably, venture to talk to the child, or to shew it something to amuse it—as your watch or stethoscope, and while thus testing the state of its mental powers, you may pass your hand over the head, and note the state of the fontanelle, and the presence or absence of heat of the scalp.

The examination of the state of the abdomen, though too important to allow of its ever being omitted, will often lead to no satisfactory result, unless carefully managed. If you allow the nurse to change the child's posture and to lay it back in her lap, in order that you may pass your hand over its stomach, the child will often be alarmed and begin to cry. Its abdomen then becomes perfectly tense, and you cannot tell whether pressure on it causes pain, or whether the cries are not altogether the consequence of fear. It is therefore the best plan to pass your hand beneath the child's clothes, and to examine the abdomen without altering its posture, while, at the same time, the nurse talks to it to distract its attention, or holds it opposite the window or a bright light, which seldom fails to amuse an infant. If there be no tenderness of the abdomen the child will not cry on pressure, or if, during your examination, the presence of flatus in the intestines should occasion pain, gentle friction, instead of increasing suffering, will give relief.

You must next examine the chest; and for this purpose immediate auscultation is always to be preferred, since the pressure of the stethoscope generally annoys the child. If the child be not in its bed-gown, it will usually be your best course to have the back of its dress undone, and then, while it is seated on its mother's or nurse's lap, to kneel down behind it and apply your ear to its chest. In all acute diseases of the lungs in infancy the condition of their posterior part is a sure index to the extent of the mischief from which they are suffering; for, owing to the infant passing so much of its time in the horizontal position, the blood naturally gravitates towards the back of the lungs, and the secretions are much more likely to accumulate in the bronchi in that situation than elsewhere: hence, if air be heard permeating the lungs throughout the whole posterior surface of the chest, and unaccompanied with any considerable amount of crepitation, it may fairly be inferred that their front parts are free from serious disease, even though we should be unable to ascertain the fact by actual observation.

When you have listened thoroughly to the back of the chest, you may next percuss

it. You must not percuss first and listen afterwards, as you often do in the adult; for even when practised with the greatest gentleness, percussion sometimes frets the child, and makes it cry, whereby any subsequent attempt to listen to the breathing would often be rendered unsuccessful. But you must not neglect percussion: it is of peculiar value in childhood, since auscultation is then unavoidably incomplete in many instances, sometimes quite impracticable. In practising it, however, there are some rules without attention to which you will very likely fail of acquiring any information whatever. You must never, in the child, attempt to percuss the walls of the chest, but should strike on your finger, and even then very gently. The chest of the child is so resonant, that, if you percuss smartly, you will fail to perceive the finer variations in sonority which would be readily appreciable on gentler percussion. Always observe to compare the results obtained by percussing opposite sides of the chest, since otherwise you might overlook a very considerable degree of dulness. It often happens, too, that the lower lobes of both lungs are involved nearly equally; you must therefore notice the resonance of the lower as compared with that of the upper part of the chest. Sometimes you are compelled, by the fretfulness of the child, or by the tenderness of the walls of its chest, to percuss so gently as scarcely to elicit any sound. It is of importance, therefore, to attend to the sensation of solidity communicated to the finger, as well as to the sound of dulness that falls upon the ear, since, if your sense of touch be delicate, it will correct or confirm the evidence of hearing.

Having thus examined the back of the chest, you may, if the child be likely to tolerate it, try to listen at its sides, and then in front. You can, however, scarcely auscultate the front of the chest in infancy without a stethoscope, and this you will very seldom be able to use; for, if the child be not frightened, it will probably be so exceedingly amused at what it regards as specially intended for its own diversion, that it will join in the game, and disconcert you by playing with the instrument. You will encounter this difficulty in cases of phthisis in early childhood, and will often find it no easy matter to ascertain the character of the respiration in the front of the chest. In such cases you will learn all the value of percussion which may be practised over the front of the chest as well as the back, while the state of the breathing in the upper and back part of the chest will generally be a correct index to its condition in front.

Your examination of the chest will not be complete until you have noticed the general

character of the breathing, whether the whole of the chest is expanded by it, or whether the respiration is merely abdominal, —whether the child breathes as deeply as it should, or whether it makes frequent short inspirations which cannot fill the smaller bronchi. The time for ascertaining these points must vary in each case; but the earlier they are observed the better, since otherwise you run the risk of drawing your inferences not from the child's ordinary condition, but from its condition when excited and alarmed. Some of these points may be noticed though the child be so fretful that you cannot auscultate even the back of its chest satisfactorily. An imperfect auscultation, however, is better than none; for at the very worst, during the deep inspirations that are made at intervals in a fit of crying, you may ascertain how far the lungs are permeable to air, and whether the bronchi are much loaded with mucus. Independently of auscultation, too, much may be learned from the cry. If its two periods be clearly marked—the long loud cry of expiration, and the shorter, less loud, and perfectly distinct sound that attends inspiration—you may feel convinced that there exists no important ailment of the respiratory organs.

It would still remain for you to examine the tongue, and to ascertain the condition of the gums; and it is wise to defer this to the last, since it is usually the most grievous part of your visit to the child. If during any part of your previous examination it had cried, you might seize that opportunity to look at its tongue, and, if necessary, to pass your finger over the gums, thus sparing it any further distress about the matter. If you had not this opportunity, you would generally get a good view of the mouth and throat in young infants by gently touching the lips with your finger: the child opens its mouth instinctively, and then you can run your finger quickly over its tongue, and down towards the pharynx, and thus secure a perfect view of the mouth and throat. With older children a good deal of coaxing is sometimes necessary to persuade them to open their mouth; but, if you once get your finger on the gum, you can usually keep them quiet by rubbing it, and by a little address will then seldom fail in opening the mouth wide enough to get a view of the tongue.

If little children be very ill, all this minute care in the order of your examination is not so much needed, because they will not notice so quickly; but gentleness of tone and manner will be even more necessary to sooth the pettishness and quiet the alarm of the little sufferer.

Many of the directions that I have just given you refer to the examination of in-

fants, and become less applicable in proportion to the greater age of the patient. Minute rules for your examination of children from three years old and upwards are not needed; but patience, the most untiring, and good temper, the most unruffled, are indispensable.

The previous history of a patient, the circumstances under which his present illness came on, and the symptoms that at first attended it, often help to remove our doubts with reference to the nature of a disease, and sometimes greatly modify our diagnosis and influence our plan of treatment. Really trustworthy information on these points, however, is often difficult to be obtained, and the attempt to elicit it is almost sure to be unsuccessful, if the questions put to the patient are proposed at random, and without some previously well-digested plan on the part of the physician. One great object of clinical instruction is to teach the student so to conduct this as well as other parts of his examination of the sick, as to throw from every source the greatest possible amount of light upon the nature of the disease, and thus to fit himself to decide with some approach to certainty on the means most likely to effect its cure. Such instruction has been amply afforded you in the wards of this hospital; but you must allow me to detain you while I point out the subjects towards which your inquiries must be especially directed in the case of children, since they differ in many respects from the questions that you would propose if your patient were an adult.

We will suppose, if you please, that a child is brought to you of whose case you would wish to preserve a record. Its name, age, sex, and residence will form of course the first entry in your note-book; but your next inquiries should be as to the number of living children that the parents have had, whether any of those children have died, and, if so, at what age, and of what diseases, and as to the health of both parents, and of their immediate relatives. The object of these questions is to ascertain whether there exists any hereditary tendency to disease in the family, since that plays a most important part in many of the affections of childhood, and symptoms that in the child of healthy parents would cause you but little uneasiness, would at once excite serious alarm if you knew that some members of the family had died of hydrocephalus or consumption, or had been the subjects of scrofula.

Many of the most serious affections of childhood occur within the period of a few years, and after a certain age are comparatively rare in their occurrence, and generally mild in their character. It is therefore very desirable when any ailment is coming

on, the nature of which is not yet quite apparent, to know which of the diseases incidental to childhood have already affected your patient. With this view you would ask whether the child has been vaccinated, or has had the small-pox, and whether it has passed through any other of those affections, such as chicken-pox, whooping-cough, measles, or scarlatina, which generally come on in early life. If the child had suffered from any other disease, you should learn its nature, the age at which it occurred, and any other point of importance connected with it.

In writing out your history of the case, these preliminary matters would naturally be mentioned at the beginning, and though you would not follow any very strict order in proposing your questions, yet it is always desirable to obtain information on these points at an early stage of your examination, since it may guide you in some of the questions that you afterward propose, or may lead you to pay particular attention to symptoms which otherwise would not seem to be of much moment. Besides, if you postpone these inquiries till you have nearly completed your examination of the patient, the parents will probably apprehend that they are suggested by some doubt or apprehension in your mind as to the nature of the case, and will distress themselves by causeless fears, or perhaps disconcert you by questions to which you are not prepared to return a positive answer.

There are two other points which bear on the general condition of the child, to one or both of which your inquiries must in many instances be directed. If your patient be an infant at the breast, you must learn whether it lives entirely on its mother's milk, or has other food besides. If it has been weaned, you must ask its age at weaning—whether it was taken from the breast on account of any failure in its own health or its mother's, and on what diet it has since been fed. The process of dentition is the other subject for inquiry, and in reference to it you must ascertain how many teeth the child has, and which they are—whether they were cut easily or with difficulty, the age at which teething commenced, and the time that has elapsed since any fresh teeth appeared.

You may now endeavour to obtain a clear and connected history of the present illness, and for this purpose it is well to begin with asking when did the child last seem quite well? since you thus get a fixed starting point from which you can make the mother or nurse set out in her detail of symptoms. The date thus assigned, indeed, will often be a wrong one, the disease having begun before with some symptom that was not noticed, or its real origin having been considerably subsequent to its supposed commencement.

But notwithstanding this possible error, you derive much advantage from thus making sure of the symptoms being told you in something like their chronological order, since otherwise it is very likely that those only would be mentioned which had chanced to strike the mind of the mother or nurse, while the others would be passed over in silence. Your object in the examination must not be to curtail the garrulity of the nurse, or to suppress the mother's expression of her sometimes imaginary fears, but to get as clear an account as possible of every thing that has been observed. You must be careful not to underrate the value of the information they communicate, or even of the opinions they express. Both are much more likely to be correct, when your patients are children, than when they are adults. A mother hanging over her sick infant, or a nurse watching the child she has helped to rear from babyhood, may sometimes see dangers that have no existence, but will generally be the first to perceive the approach of such as are real. You see the child but for a few minutes, and at distant intervals, and the excitement or alarm which your presence is so likely to occasion may greatly modify its condition during your visit. They tend the little one by day and night, notice each movement, and seize the most transient variations in its expression.

I need not say much about the necessity of inquiring about the appetite and thirst, the state of the bowels, and the appearance of the evacuations, for these are points which you would investigate in patients of every age. I will just mention, however, that the degree of appetite and thirst cannot be so readily determined in the infant as they may be in the adult, or even in the weaned child; for an infant may suck, not because it is hungry, but in order to quench its thirst. That extreme craving for the breast, which is appeased only so long as the child is sucking, while the milk swallowed is speedily vomited, may be taken as a sign of thirst; but it is always better to record the fact than the inference. It is likewise often desirable to let the infant be put to the breast in your presence, not only for the sake of observing the above-mentioned facts, but also in order to notice the vigour with which it sucks, the ease or difficulty with which it swallows, and other similar points from which very important conclusions may often be drawn.

Before you venture on drawing any inferences from the state of the child at the time of your visit, you should ascertain whether it has just before been taking food, or has been recently excited or fatigued by being washed or dressed, since comparatively trivial causes are sufficient to accelerate the pulse and respiration, and to give rise to

changes which might, if unexplained, lead you to very erroneous conclusions. Any such circumstances ought of course to be mentioned in your notes, as should also the fact of the child being asleep at the time of your visit, since that would explain even a very considerable diminution in the frequency of the pulse and respiration.

But if you are carefully to observe all the points which I have mentioned, and to make yourselves thoroughly masters of a case, you must be most lavish of your time; you must be content to turn aside from the direct course of investigation, which you would pursue uninterruptedly in the adult, in order to soothe the waywardness of the child, to quiet its fears, or even to cheat it into good humour by joining in its play; and you must be ready to do this, not the first time only, but every time that you visit the child, and must try to win its affections in order to cure its disease. If you fail in the former, you will often be foiled in your attempts at the latter. Nor is this all: you must visit your patient very often, if the disease be serious in its nature, and rapid in its course. New symptoms succeed each other in infancy and childhood with great rapidity; complications occur that call for some change in your treatment, or the vital powers falter suddenly when you least expect it. The issues of life and death often hang on the immediate adoption of a certain plan of treatment, or its timely discontinuance. Do not wait, therefore, for symptoms of great urgency before you visit a child three or four times a day, but if the disease be one in which changes are likely to take place rapidly, be frequent in your visits as well as watchful in your observation.

You will perceive, gentlemen, by the subjects which I have endeavoured to bring before you this day, that I have assumed it to be your wish to acquire a practical knowledge of the diseases of children. But real acquaintance with disease is not to be gained in the lecture-room: it is to be obtained by painful and persevering observation, and for this purpose you are used to spend much of your time in the wards of the hospital, and the sick bed becomes to you a spot of peculiar attraction. Unfortunately I cannot open to you the wards of a children's hospital, for at present there is no such institution in the country; but I shall be most happy to meet those of you who can spare the time any Tuesday or Friday morning, at 10 o'clock, at the Children's Infirmary. You will then have the opportunity of seeing a large number of children who are brought as out-patients to the institution, and I will do all in my power towards rendering your visits there really profitable to you.

You will naturally think, that before I finish this lecture I should tell you some-

thing definite about the subjects that I mean to bring before your notice, and the manner in which I propose to treat them. The title of these lectures can, I should think, scarcely need any explanation, for by the diseases of infancy and childhood you will naturally understand all those affections which are either limited in the time of their occurrence to early life, or which, though incidental to all ages, yet in the child present many peculiarities in their symptoms, and require many important modifications in their treatment. Some of these diseases, indeed, are usually allotted to the care of the surgeon, and on their examination I will not enter, since I could tell you nothing more than has already been better said by others. They, however, are but few in number, and most of them are purely local affections, so that these omissions will not be many, and most of them not important.

In the description of the diseases of children, no practically useful end would be obtained by following any elaborate nosological system. I shall therefore adopt the most simple classification possible, and shall treat in succession of the diseases of the nervous system, of the respiratory and circulatory, and of the digestive systems and their appendages. There will still remain one very important class of affections, namely, fevers; and these I propose to consider last of all, because much of their danger arises from their complications, and to treat them judiciously you must be familiar with the diseases of the brain, the lungs, and the bowels. In this plan it will be easy to detect a want, perhaps too great a want, of scientific arrangement, but the one object of my endeavours will be to communicate to you, as clearly as I can, such information as may be most useful to you in the discharge of your daily duties.

With this view, I have, while composing these lectures, tried to think over the doubts I felt, the difficulties I met with, and the errors I fell into, when, some years ago, I entered on the office of physician to a large institution for the cure of children's diseases. I have presumed that where I had encountered difficulties there you might meet them too, that where I had made mistakes there you would need a guide, and remembering the many anxious hours I passed when I hesitatingly adopted some course of treatment which I feared might after all be a mistaken one, it has been my endeavour to lay down, not only the rules for the diagnosis, but also the indications for the treatment of each disease as minutely as possible.

To the task before me I now apply myself with a deep conviction of the narrow limits of my own knowledge, but still feeling that I have contracted an obligation to impart to

others what I trust experience has taught me. My end will be answered if you learn it at an easier rate than I did; and if I can be the means of saving you from some of those errors in diagnosis, and some of those mistakes in treatment, which, for want of some one to guide me aright, I committed.

LECTURES ON
ELECTRICITY AND GALVANISM,
IN THEIR PHYSIOLOGICAL AND THERAPEUTICAL RELATIONS,

*Delivered at the Royal College of Physicians,
in March, 1847,*

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LECTURE II.

Origin of animal electricity—In a state of equilibrium—In a dynamic state—Traced to chemical action—Electrogenic effects of respiration and metamorphosis of tissue—Of decomposition of salts in the body—Electrolytic effects of such low currents—Evolution of ammonium—Electrogenic effects of chemical union—Applied to the muco-cutaneous and muscular currents—Arrangement of acid and alkaline fluids in muscular structure—Electrogenic effects of evaporation—Of heterogeneity of structure—Function of electricity—As a cause of secretion—Napoleon's hypothesis—Failure of attempts to detect currents in the nerves—Electricity as a cause of muscular contraction—As the digestive agent—How far admissible—Dependence of gastro-hepatic current or nervous agency—Theories of Orioli, Meissner, and Herschel—Reputed influence of electricity on the capillary circulation.

IN my last lecture I pointed out the universal distribution of electricity in brute matter, and exhibited some of its effects when its equilibrium is disturbed by mechanical, chemical, and thermal influences, and then proceeded to demonstrate its existence in living beings, and succeeded in obtaining it in a state of tension from my own body. The great discovery of Galvani, and the more recent researches of Nobili, Matteucci, and others, next engaged our attention; and, having adduced sufficient evidence of the existence of free electricity of varying tension in animal structure, we are now prepared to grapple with the difficult and interesting question which next arises.

Having demonstrated the existence of electricity in the animal frame—what is its

origin?—whence is it derived?—if we for a moment animadvert upon the facts already recounted, we find evidence of the existence of electricity under two distinct forms: one in which this agent is in a neutral and static condition, that is, in a state of rest, capable of being resolved into its two component elements by various mechanical and chemical processes. This form of electricity is possessed by the living fabric in accordance apparently with the general laws of the universal diffusion of this agent throughout all matter, whether dead and inert, or quick and animated with the flame of life. It was this that I decomposed by drawing a comb through my hair, and the existence of one of whose elements in a free state I demonstrated with the electrometer. We have no means, in the present state of our knowledge, of explaining the origin of this electricity in the body, save by referring it to the fiat of omniscience.

There is, however, another state in which electricity exists—a dynamic condition, electricity in motion, or in the state of current. This evidently is not anything super-added to the body, but is merely the electricity normally existing in a state of rest and neutral condition, decomposed by some cause or series of causes, by which its positive and negative elements are separated, their attempt at reunion to reconstitute the neutral electricity giving rise to the phenomena we have been investigating. Let us now review some of the processes going on in the body, which, from their nature, appear capable of disturbing the electric equilibrium which would, without their influence, exist alike in the living frame as well as in brute matter.

It is now an incontrovertible fact that no chemical change can possibly occur without a disturbance of electric equilibrium. Let us, then, ask what processes of this character are going on in the body. The first in point of importance that demands our attention is the union of carbon with oxygen to form carbonic acid. We know that in the respiratory process, this acid, in the form of gas, is, with aqueous vapour, evolved from the lungs, in addition to a considerable quantity which exhales with the perspired vapours from the surface of the skin. It is nearly impossible to determine the quantity of carbon thus evolved in combination with oxygen with any great accuracy; but it seems pretty certain that about thirteen or fourteen ounces are thus got rid of in 24 hours. During this period the greatest proportion is taken in with the ingesta as mere carbon, and undergoes oxidation in some part of the animal frame. By this union with oxygen, carbonic acid is formed and evolved. Now it is demonstrable, that, if we allow a piece of charcoal to undergo

combustion in connection with the condensing-plate of a gold-leaf electrometer, the gold leaves will soon diverge with free negative electricity, whilst the stream of carbonic acid escaping from the burning charcoal carries off with it free positive electricity. This observation we owe to M. Pouillet. It is true that the carbon does not, during its union with oxygen in the animal frame, become red-hot and burn with a visible flame; but this does not constitute a serious objection to our regarding the generation of carbonic acid as one source at least of the excitation of free electricity, for the disturbance of electric equilibrium does not depend upon the light and heat evolved, but from the act of union of the carbon with the oxygen. It has, indeed, been suggested by Mr. Wilkinson that the act of respiration is essentially a galvanic operation, and that the cells of the lungs in which the chemical changes proper to this function occur are analogous to the prismatic cells or tubes of the torpedo and other electric fishes. This idea is, I need hardly say, not supported by any anatomical resemblance between the organisation of the pulmonary cells and the electric tubes of the torpedo, but was evidently simply emitted as an hypothesis necessary to the theory of animal heat promulgated by the very ingenious observer just alluded to. We, however, must not forget that it is by no means proved that any union of carbon with oxygen does occur in the lungs: it is, indeed, more than probable that this combination occurs most extensively in the systemic capillary system, and that the carbonic acid exhaled by the act of expiration is by no means admitted to be exclusively generated in the lungs.

I have here only alluded to the oxidation of carbon; but we must recollect that hydrogen, phosphorus, and sulphur—elements constituting important and essential ingredients of our food—are also thus burnt off and oxidated in the body. These must, like the carbon, become by this very act sources of free electricity. But a more important influence disturbing electric equilibrium is found in the series of decompositions which, in the physiological condition of the body, are always in action. It is impossible that any two elements can be rent asunder without setting free a current of electricity, which, insignificant as it might theoretically appear, is nevertheless competent to the production of many important phenomena. As one among many examples, I would cite the case of common salt, which plays so important a part as an article of food, and for which perhaps alone, of all condiments, an universal appetite exists. In addition to the proportion of this substance which enters the blood unchanged, and becomes an element of all the secretions, a

part is decomposed, and one element in union with hydrogen appears as hydrochloric acid in the stomach; another, in union with oxygen, constitutes, as soda, an important constituent of the bile. What, it may be inquired, can be the influence of these apparently infinitesimal evolutions of electric matter, evolved thus from the resolution of a few grains of salt and water into its elements? But it is easy to produce a mass of evidence to shew that these small quantities of electricity are more so in appearance than reality. When we gaze on the electric machine, and listen to the loud snapping, and observe the brilliancy of its sparks, we are apt to fancy that we are dealing with an energetic dose of the agent in question; but all the electricity capable of being evolved from a revolution of the plate or cylinder of the most powerful machine, beautiful and brilliant as may be the phenomena it develops, is incalculably less than that set free by the decomposition of a drop of water or a grain of salt, the real difference consisting in the state of tension or elasticity of the evolved electricity. Dr. Faraday has indeed rendered it probable, that, during the decomposition of nine grains of water, an amount of electricity is thus set free far greater than that which is called into terrific action in the production of the vivid lightning-flashes and appalling thunder-sound of the dread-inspiring tempest.

But, to descend to positive proof, it has been shewn by Becquerel, and subsequently by myself, in a paper read some years ago before the Royal Society, that the electricity evolved during the decomposition of a few grains of common salt was, when properly managed, capable of producing chemical changes which, in the hands of the illustrious Davy, required for their demonstration the vast voltaic battery of the Royal Institution. The element necessary for the production of these phenomena appears to be simply a weak current with continuity of action.

Let me draw your attention to the glass vessels before you, in which a few grains of common salt have been undergoing decomposition during the last few hours. The current evolved has been made to traverse a solution of hydrochlorate of ammonia. The result of this has been the decomposition of the salt, and the evolution of its curious theoretical base, the compound metal, *ammonium*. It has in the central tube appeared as an amalgam with mercury, a globule of which had been previously entangled in the folds of the platinum conducting wire. The compound here appears as a grey ash-coloured sponge, like spongy platinum, so light as to float in water. And observe another effect of these weak currents: the amalgam remains in the midst of water unchanged, whilst, under ordinary

circumstances, a moment's immersion in that fluid is sufficient to destroy it; the weak current which produced it is effective in retaining it unchanged. By untwisting a wire I cut off this current; chemistry comes into play, the spongy amalgam vanishes amidst a torrent of bubbles of hydrogen. Once more let me unite the wires, the electricity from the decomposing salt again traverses the solution; again chemical forces are paralysed, and we shall soon see the spongy amalgam of ammonium and mercury reappear.

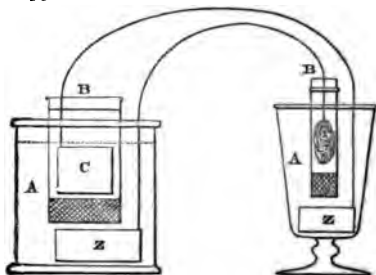


Fig. 1, Battery.

- A, Vessel containing solution of common salt.
- B, Glass cylinder, closed with a plug of plaster of Paris, and containing a solution of sulphate of copper.
- C, Copper plate.
- Z, Zinc plate.

Fig. 2, Decomposing cell.

- A, Vessel containing solution of common salt, having a zinc plate, Z, immersed, and connected by a wire with the copper plate C of the battery.
- B, Glass tube, closed with plaster of Paris, containing a solution of hydrochlorate of ammonia, the amalgamated platinum wire immersed in it passing through the cork, and connected with plate Z of the battery.

We have just noticed the fact, that under the influence of a weak current, salts can be resolved into their component elements. In this way a compound can be separated into its constituent acid and base. Now it is a remarkable fact, that if an acid and electric solution be so placed that their union be effected through the parietes of an animal membrane, or indeed any other porous diaphragm, a current of electricity is evolved. This fact was first noticed by Becquerel, and has since been found to be true, not only with nitric acid and potash, during whose combination he observed this disturbance of electric equilibrium, but with all other acids and soluble bases. I am anxious to demonstrate the accuracy of this

statement to you, although I fear the test I shall use, the deviations of the needle of an astatic galvanometer, will not be visible to all. I have here a glass tube closed at one end by an animal membrane—a piece of bladder. I fill it with a weak solution of soda, and immerse it in a glass vessel containing some diluted acid. The soda and acid are gradually combining through the walls of the membrane. I now plunge a plate of platinum into the acid, and connect the wire fixed to it to one screw of the galvanometer; fixing the wire of a second plate to the other screw, I plunge it into the alkali; the needles of the galvanometer instantly start into motion, and traverse a considerable arc, pointing out the existence of a current of positive electricity from the acid to the alkali through the conducting wires. Now, with the exception of the stomach and cœcum, the whole extent of the mucous membrane is bathed with an alkaline mucous fluid, and the external covering of the body, the skin, is as constantly exhaling an acid fluid, except in the axillary and perhaps pubic regions. The mass of the animal frame is thus placed between two great envelopes, the one alkaline, and the other acid, meeting only at the mouth, nostrils, and anus. This arrangement has been shown by Donné to be quite competent to the evolution of electricity, and accordingly he found that if a platinum plate connected with the galvanometer be held in the mouth, whilst a second be passed against the moist perspiring surface of the body, the needles will instantly traverse, just as they did in the experiment I have just shown with acid and alkali. The current thus detected by Donné at once explains the cause and confirms the accuracy of the celebrated experiment of Professor Aldini, to which I have already drawn attention. I refer to that in which he excited convulsions in a frog by holding its foot in the moistened hand, and allowing the sciatic nerve to touch the tongue. His curious experiment with the head of an ox admits of a similar explanation.

A remarkably energetic current also can be thus detected when the platinum plates are plunged, one into the acid contents of the stomach of an animal, the other into the alkaline secretion of the liver. This gastro-hepatic current is of so very remarkable a character that it will once more occupy our attention.

Within the last few months, the results of some researches of Liebig have rendered it very probable that a large proportion of the electricity of muscular structures is owing to the mutual reaction of an acid and alkaline fluid. Every one is aware that the blood, in a healthy state, exerts a decided and well-marked alkaline action on text-

paper: now it is remarkable that although a piece of muscular flesh contains so large a proportion of alkaline blood, still that when chopped up, and digested in water, the infusion thus obtained is actually acid to litmus paper. This curious circumstance is explained by the fact announced by Liebig, that although the blood in the vessels of the muscle is alkaline from the tribasic phosphate of soda, yet the proper fluids or secretions of the tissues exterior to the capillaries is acid from the presence of free phosphoric and lactic acids. Thus in every mass of muscle we have myriads of electric currents arising from the mutual reaction of an acid fluid exterior to the vessels on their alkaline contents. Whatever may be the ultimate destination of this large quantity of electricity, it is at least remarkable that a muscle should be really an electro-genic apparatus. This view of Liebig on the condition of the fluid of muscles curiously helps in explaining the presence of electricity in them, announced by Matteucci. We have thus two sources of the electricity of muscles—the effects of metamorphosis of effete fibres on the one hand, and on the other the mutual reaction of two fluids in different chemical conditions. It is certainly curious thus to find a muscle, an organ long regarded as the motor apparatus of the bony levers of our frames, invested with new properties. Its agency in generating electricity can no longer be denied, and I hope by and by to render it probable that the seat of the generation of animal heat is also in the muscles. In the course of twenty-four hours, a considerable proportion of watery vapour exhales from the surface of the body. This has been variably estimated, and in all probability is liable to great variation, but from thirty to forty-eight ounces of water may thus be got rid of from the system. The evaporation of this amount of fluid is sufficient to disturb the electric equilibrium of the body, and to evolve electricity of much higher tension than that set free by chemical action. A metallic cup, containing a few drops of water, is placed on the electrometer before me. I now drop in a piece of hot charcoal; a cloud of watery vapour is evolved, and the gold leaves instantly diverge to their utmost extent with free negative electricity. I think this evaporation may probably account for the traces of free electricity generally to be detected in the body by merely insulating a person and placing him in contact with a condensing electrometer. Pfaff and Ahrens generally found the electricity of the body thus examined to be positive, especially when the circulation had been excited by partaking of alcoholic stimulants. Hemmer, another observer, found that in 2422 experiments on himself, his body was positively electric in 1252, nega-

tive in 771, and neutral in 399. The causes of the variations in the character of the electric condition of the body admit of ready explanations in the varying composition of the perspired fluid. For if, containing, as it generally does, some free acid, it by its evaporation would leave the body positively electric; whilst it merely contains neutral salt, it would induce an opposite condition. The accuracy of these statements can be easily verified by means of the galvanometer.

It is impossible to quit this part of my subject without calling to mind the fact, that, independently of combustion, chemical action, or evaporation, the mere contact of heterogeneous organic matters is competent to disturb electric equilibrium. Thus a pile of alternate slices of muscular tissue and brain, with pieces of wet leather interposed, has been found by Lagrave to evolve electricity; and Dr. Baconio, of Milan, has shewn that a few alternations of slices of beet-root and wood of the walnut-tree were capable of setting free sufficient electricity to excite convulsions in a frog when conveyed to its muscles by means of a conductor formed of a leaf of scurvy grass. Matteucci has thrown out the suggestion, that the organization of a muscle is possibly such as thus by heterogeneity of structure to account for the development of electricity; he considers the analogy between the voltaic arrangements and the constitution of muscle to be complete, if we conceive the zinc, or oxydising plate, to be represented by the true fibre, the platinum, or conducting plate, by the sarcolemma, and the exciting fluid by the blood.

In summing up the foregoing facts, we are, I think, justified in concluding that a mass of evidence has been adduced demonstrative of the actual existence of electricity in three states in the body:

1st. In a state of equilibrium, common to all forms of ponderable matter.

2d. In a state of tension capable of acting on the electrometer, giving to the whole body a generally positive condition, and arising, in all probability, from the disturbance of the normal electric equilibrium by the processes of evaporation and respiration.

3dly. In a state of current, a dynamic condition, arising from the disturbance of equilibrium by the union of carbon with oxygen in the capillary system, and from other chemical processes going on in the body; such currents, although *suspected* to be everywhere existing, having been actually detected between the skin and mucous membrane, the stomach and liver, and the interior and exterior of muscular structures.

A difficult question now remains for us to grapple with: having proved the existence

of electric currents in the animal frame, what is their office, what purpose are they destined to serve in the animal œconomy? That they must have some function to fulfil is obvious from their presence; that such function, whatever it may be, is important will be at once conceded from their existence in almost every part of the body. We know that nothing in the meanest element of the universe is made in vain; much less, then, can the philosopher admit that the electricity existing in the masterpiece of the Creator has not some great and destined purpose. From the mysterious character of the agent under consideration, from the astounding effects it develops, from its simulating some of the most occult and remarkable phenomena of the external world, the active imagination of the superficial as well as of the more sober observer has always sought in electricity a clue to most, if not all, of the functions of the body. Some, indeed, have gone the dangerous length of regarding electricity as the principle of life itself, and have dared to place it on a level with the divine essence, which, emanating from the Creator, constitutes what, for want of a better name, we call vitality. These pretensions have been given to this agent from its effects when made to traverse the spinal nerves of a recently-executed malefactor. This, in the hands of Dr. Ure, in his celebrated experiment upon the murderer Clydesdale, worked on the dead but yet warm corpse a horrible caricature of life; by calling into violent contractions the muscles of the face, all the expressions of rage, hatred, despair, and horror, were depicted upon the features, producing so revolting a scene that many spectators fainted at the sight. But this experiment on the recently-executed murderer, striking as it was, merely afforded an additional proof of the susceptibility of the muscles to the stimulus of the electric current, and, when divested of the dramatic interest investing it, becomes not more remarkable than the first experiment of Galvani on the leg of a frog.

Secretion and nervous agency have always been the favourite phenomena which electricity has been called in to explain, and with some considerable appearance of probability. Dr. Wollaston, 36 years ago, first suggested from the re-solution of salts into their elements under the influence of feeble currents, that secretion depended essentially upon the electric state of the secreting glands; he thus regarded the kidneys as constituting the positive and the liver the negative electrodes of the electric apparatus of the body. A curious anecdote is related of Napoleon, who is said by Chaptal to have remarked, on seeing the voltaic battery of the French Academy in action, "*Voilà, docteur, l'image de la vie; la colonne verte-*

bral est le pôle, la vessie le pôle positif, et le foie le pôle négatif." We must admit that a great *hiatus* exists in every argument which assumes that nervous force and electricity are identical, from the fact that delicate as are our tests for this agent, it has never been actually detected traversing the nerves. It has indeed been stated that on connecting needles plunged in the nerve of a rabbit with the galvanometer, and exciting the muscles of the limb to contract, currents have been detected. Other observers of high repute have stated that a steel needle plunged in a nerve becomes magnetic during the contraction of the muscle it supplies. Both these statements have been rigidly tested, and have been found utterly unsupported by the results of careful experiment. These failures must not, however, be admitted as quite conclusive against the existence of electricity in the nerves, although their structures are by no means such good conductors as some other of the animal tissues, for it has been well remarked by Dr. Todd and Mr. Bowman, in their elegant and elaborate work on physiological anatomy, that the insertion of needles into the nerves is not a sufficiently delicate means for collecting electricity, if such exists, for they can scarcely be expected to pierce the nerve-tubes, but would sink in between them and the central axis, from which they would be separated by the insulating matter of Schwann. I shall, however, have again occasion to return to this question.

I dare not occupy your time by an allusion to all the hypothetical notions which have been promulgated regarding the part played by electricity in the animal economy; still there are two or three which, as well from their ingenuity as from the talent of their authors, well deserve a passing notice. Among these, the supposed action of electricity, as the agent which, by traversing the nerves, induces the contraction of muscle, a theory announced by Prevost and Dumas, stands foremost. It was assumed by these philosophers that the nervous fibrillæ traversed a muscle in a direction perpendicular to the direction of its fibres, forming a series of loops, either by uniting with each other or with a neighbouring nerve. On the influence of the will being directed towards the limb, a current of electricity was supposed to be transmitted along the nervous parallel loops, which consequently attracted each other, and of course on their approximating caused contraction of the muscle: this view is evidently founded on the well known fact of currents moving in the same direction attracting each other, which a single experiment will easily demonstrate.

It is hardly necessary to allude to the objections which may be opposed to this most ingenious theory; among the most serious is

the fact that more recent researches of physiologists have shewn that the views of its talented authors are not consistent with a correct knowledge of the organization of muscular tissue.

The influence of electricity as an agent in exciting the function of digestion, and, indeed, enabling us to replace the *vis nervosa*, transmitted by the pneumogastric nerves, by a weak current, has been especially insisted upon by Dr. Wilson Philip. This very indefatigable observer made numerous observations on this matter, and he succeeded in proving that when in a rabbit who had just partaken of a hearty meal the par vagum was divided on both sides, the food remained in the stomach unaltered, whilst on allowing an electric current to traverse the course of the nerves to the stomach, digestion was effected. This is just what might, from what is now known of the nature of digestion, have been expected, and a very much less energetic current than that employed by Dr. Philip would have been sufficient. For it is now pretty distinctly made out that the function of digestion in the stomach is an action allied to simple solution, of which water,—a temperature of 90°, and a free acid, the hydrochloric, phosphoric, or both, are the active agents. The feeble current from a single pair of zinc and silver plates is powerful enough to furnish, in a short time, a sufficient supply of electricity to decompose some chloride of sodium or common salt, and to evolve enough hydrochloric acid for the purpose of digestion; and I shall have, indeed, occasion to shew in a future lecture that such a current, feeble as it is in point of intensity, is capable of producing most remarkable secondary effects on living tissues, actually effecting very important chemical changes in the parts submitted to its influence. It is true that objections have been started to this theory, but my own impression is that they are not sufficient to invalidate the accuracy of Dr. Philip's statements; and although I do not by any means consider we are justified in admitting with him that electricity is capable of performing all the functions of the nervous influence in the animal economy, nor in regarding an electric current as constituting the real digestive agent, we nevertheless possess sufficient evidence to induce us to regard a current of electricity as the means by which the saline constituents of the food are decomposed, and their constituent acids, the real agents in digestion, act free in the stomach; the soda of the decomposed salts being conveyed to the liver to aid the metamorphosis and depuration of the portal blood, and cause the separation of matter, rich in carbon, in the form of a saline combination in the bile.

It is remarkable that although nothing is more frequently praised than the certainty of the evidence of natural truths, and although it would appear a simple thing to describe with fidelity and accuracy the results of experiment and observation, still an observer has scarcely had time to announce his discoveries and array his phalanx of facts in a resistless manner, as he supposes, before some other person repeats his experiments, and perhaps announces that he has obtained exactly opposite results: such has been the case with Dr. Philip's observations. Mr. Broughton, in this country, in particular, obtained nearly directly opposite results; others have again repeated their experiments, and have sufficiently corroborated the results of the doctor's researches on the effects of division of the pneumo-gastric nerves arresting the digestive process: the effects of the electric current in developing this function after division of the nerves is however variously reported. Now, most certainly, these discrepancies cannot be admitted as furnishing anything valid against Dr. Philip's views, unless, in addition to the use of the battery, the direction of the current was distinctly indicated, for unless the positive current entered the stomach it would not cause the separation of free acid; as, if the negative fluid entered, free alkali would alone be developed.

There is, in connection with this hypothesis, a most interesting and important observation of Professor Matteucci, to whose ingenuity and patience we are so largely indebted: this philosopher introduced a plate of platinum into the stomach of a living rabbit, placed another on the liver, and connected both with a galvanometer; the needles instantly traversed an arc of 20°, proving the existence of a powerful current between the liver and stomach. This, it may be observed, shews the existence of a current, but does not prove whether it is to be regarded as an effect or a cause of the chemical changes alluded to, for it has been already shewn, that when an acid and alkaline fluid are separated by permeable structures, they actually develop a current of electricity; and as the stomach contains an acid, and the liver an alkaline secretion, this might afford an explanation of the current observed by Matteucci; and had the experiment ended here, this plausible objection would have been a fatal one. But the nerves and vessels passing into the abdomen were divided above the diaphragm, and in an instant the needles of the galvanometer deviated to 3° instead of 20°; and on cutting off the head of the rabbit by a sudden blow, even this little deviation nearly completely vanished. Nothing could be more conclusive than this experiment in proving that the electric current was the cause, not the effect, of the

chemical metamorphosis of the saline ingesta, whose decomposition furnished acid to the stomach and alkali to the liver. How this current is excited is unknown, although it can hardly be doubted that one of the causes which we have already examined is competent for this purpose; but then there remains the difficulty of pointing out the route taken by the current to reach respectively the liver and stomach, for the pneumogastric nerves, at least in man, cannot, from their anatomical distribution, explain this. Is it improbable, I would venture to suggest, that the ganglionic nerves may be more immediately concerned? Does the positive current pass from the solar plexus to the stomach, and a negative current to the liver; or do the organic nerves alone cause the latter, and the pneumogastric the positive current? All here is doubt and uncertainty, and such must remain, until more careful investigations have cleared up the obscurity. All that is certain is—

1st. That an electric current does exist between the stomach and liver, which nearly ceases on division of the nerves, and completely so with the death of the animal.

2dly. That this current is competent to the evolution of sufficient free acid in the stomach to enable digestion to go on, an equivalent of soda being determined to the liver.

3dly. That cutting off the nervous supply equally arrests digestion and stops the electric current.

4thly. That on allowing an artificially excited current to enter the stomach, after division of the nerves, the chemical changes necessary to digestion reappear.

An Italian philosopher of celebrity, Signor Orioli, has hazarded a remarkable theory, which assumes that all the manifestations of life are actually dependent upon a series of galvanic combinations, existing in every organ in the body. He indeed regards every glandular organ especially, as made up of a series of such combinations, and developing different polarities; he thus assumes that the stomach, kidneys, and skin, are by such an arrangement rendered energetically electro-positive, whilst the liver and general expanse of mucous membrane are as powerfully electro-negative. He goes further, and has founded a sort of system of therapeutics on these views; for, believing that disease depends upon an excessive, diminished, or abnormal excitation of the electric polarities of the respective organs, he proposes to treat their several morbid conditions by artificially removing their unnaturally electric conditions. Orioli's views differ from the very remarkable ones promulgated by Meissner, who fancied that during respiration the blood became charged with electricity, which was then distributed

by the par vagum and sympathetic nerves to the great nervous centres. Thus becoming charged, the brain is supposed to excite the action of any organ, by giving a spark to the nerve supplying it. The electricity thus transmitted to the muscles forms around their fibres a kind of atmosphere. Becoming similarly electrified, the fibres repel each other, separately in the middle of the muscle, and thus by approximating their ends cause the structure to contract. This very pretty theory has unfortunately no support beyond the fertile imagination of its ingenious author.

Sir John Herschel, in his exquisite Discourse on the Study of Natural Philosophy, has beautifully expressed the possible relation between galvanic electricity and the *vita nervosa*, and hints at the brain being either the organ of secretion, or at least of the application of this agent; adducing in illustration the dry piles, as they are termed, of De Luc and Zamboni, and remarks, that "if the brain be an electric pile constantly in action, it may be conceived to discharge itself at regular intervals, when the tension of the electricity reaches a certain point, along the nerves which communicate with the heart, and thus to excite the pulsation of that organ." By the "dry pile" a ball may be kept in motion for many years, without any obvious waste of power, and some analogous arrangement would constitute the most constant and economic *primum mobile* of a moving organ which the resources of limited human reason can suggest. Dr. Arnott has also hinted at some such cause being the active agent which keeps up the regular pulsations of the heart.

It is indeed remarkable what an enormous quantity of electricity of high tension is developed by the piles here alluded to. I have one before me consisting of 1200 alternations, made by superposing 400 pieces of paper covered on one side with tin foil, and on the other with black oxide of manganese. The upper end of this is always charged with negative and the lower with positive electricity; and this little apparatus will for many years remain a constant source of free electricity.

Founded on the general law that bodies similarly electrified repel each other, an hypothesis has been broached that the circulation in the capillaries was greatly aided by the electric state of the blood. It has been long known that if a vessel containing water, having a very small hole in its base, be connected with the prime conductor of an electric machine, the water will merely escape *guttatim*; but on setting the machine in action, the particles of water becoming similarly electrified repel each other, and the fluid escapes in a continuous stream. In accordance with this fact it was long ago

shewn, that if a patient have a vein opened in the arm, and the blood happen to escape but sparingly, on placing him on a glass stool and electrifying him, the blood will, like the water in the vessel just alluded to, escape *pleno rivo*. There has always been a difficulty in explaining the capillary circulation. Many have questioned, and with reason, the possibility of the injecting force of the heart being competent to exert its influence through the minute blood-channels of the body. The electric hypothesis, to which I have just alluded, would certainly to a great extent meet the difficulty, but must at present be admitted with caution in the absence of absolute proof, however much probabilities may be in its favour. For it must be recollected that when a body is electrified, *its electricity is collected on its surface, and does not extend into its interior*; thus, if a person on a glass stool be connected with the prime conductor of a machine, evidence of electricity can be obtained from every part of his surface; but none can be obtained from the inside of his mouth for the reason just stated. So the escape of the blood from the vein of an electrified person may indeed be rendered more rapid, without affording the slightest proof that the circulation of the blood in the interior of the body becomes similarly influenced.

ANEURISMAL VARIX OF THE FEMORAL VESSELS.

Mr. THOMAS related the particulars of a case of aneurismal varix, at present under his care in the infirmary. The man, aged 25, was closing the "sheep-foot blade" of a common pocket knife by pressing it against his thigh, when it slipped and penetrated the limb, piercing the artery and vein midway between Poupart's ligament and the knee. Profuse hæmorrhage occurred, which was stopped by carefully applied pressure. A few weeks after the accident he was brought to the infirmary, at which time the limb was in a very atonic condition, exhibiting a number of unhealthy ulcers. The patient's general health was suffering; there was a very loud continuous burst, resembling the *bruit du diable* (increasing with each pulsation,) audible over the cicatrix when the ear was four inches from the stethoscope, and extending along the whole course of the femoral artery. By the continued use of pressure, and a generous diet, with stimulants, his general health had been much improved, and the limb also, the ulcers having healed, but the continuous bruit is still very loud.

Original Communications.

CASE OF HERNIA DIAPHRAGMATICA.

By D. H. LUSCHKA.

Translated from the Archiv. für Physiologische Heilkunde, Bd. vi. Heft 1.

By JOHN BIRKETT, F.R.C.S.

THE body was that of a strongly framed man, of about 50 years old, who from appearances must have belonged to the hard-working classes. Death ensued, as the dissection showed, in consequence of a very extensive cerebral apoplexy. On opening the thoracic cavity, the stomach and, lying above it as well as by its side, the colon were found occupying the left pleura. The lung itself was pushed upwards and backwards, and compressed as if by a long standing pleuritic exudation. The inferior half was no longer permeable by air, whilst the apex still presented the usual characters of pulmonary tissue. Between it and the misplaced abdominal viscera no particular adhesions were detected, and in the pleural sac a little fluid only, which was scarcely to be regarded as a pathological symptom.

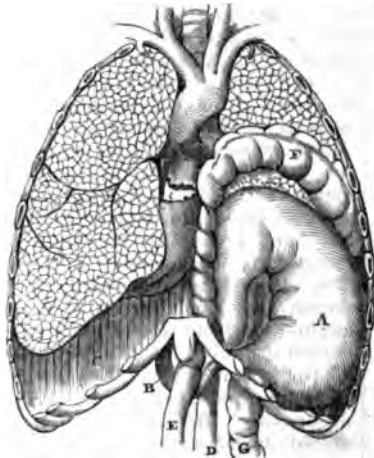
The heart was pushed forcibly to the right side, and half of it was covered by the right lung, but, in its structure, it was normal throughout.

Upon more close examination the displaced abdominal viscera were recognised in the following position:—

The stomach was lying entirely in the left pleural sac; the fundus, together with the cardia, were turned downwards and to the left; the pylorus upwards and to the right; the great curvature directed to the left. The very elongated œsophagus, after forming a large curve from the foramen œsophageum below the diaphragm, ascended into the left thoracic cavity. Above it was placed a portion of the ascending colon, below it a part of the duodenum. All three parts were united together, and with the ruptured opening. Above the great curvature of the stomach, and to the right side of the pyloric portion and the duodenum, the largest portion of which was in the thorax, the transverse colon was found intimately

connected with the stomach, and supporting the contracted omentum. The descending colon passed downwards behind the stomach into the abdominal cavity. The stomach as well as the intestine, containing only a small quantity of fluid contents, lay freely in the left pleural cavity, and there was no trace of a hernial sac. The hernial opening was found on the left border of the sternum, close behind the cartilages of the three inferior false ribs. The entire circumference of the opening was, by degrees only, distinctly perceptible, and here the edges appeared rounded and firmly cartilaginous, whilst in the remaining parts the viscera which passed through were united to them by false membranes. The whole of the aperture was in the muscular portion of the diaphragm, extending, however, as far as the edge of the *centrum tendineum*. Its size and shape corresponded with that of the palm of the hand.

As a consequence of this position of the viscera, the food must have taken a double course through the left thoracic cavity, once as *chyme* through the stomach and the greatest portion of the *duodenum*, which was found *above* the diaphragm, and then as *fecal* matter through the greatest extent of the large intestine therein placed.



A, Stomach; B, Œsophagus; C, Diaphragm; D, Duodenum; E, Colon ascending; F, Transverse arch of Colon; G, Colon descending.

REMARKS ON THE

VARIETY IN THE TYPE OF ORDINARY FEVER IN LIVERPOOL.

By E. WHITTLE, M.B. Lond. M.R.C.S.

THE observations which have suggested to me the following remarks were made on a series of cases which occurred in the practice of one of the districts of the North Liverpool Dispensary during the year 1846. The first remarkable case occurred on the 18th of April: it was casually seen by the house-surgeon in the afternoon, who felt a doubt about the nature of the case, and, looking upon it as a serious one, marked it to be visited at home. The next morning accordingly she was visited by the writer, who found her in a state of great excitement, bordering on delirium, complaining of violent headache; the face flushed; the eyes sparkling; the pupils contracted; the skin rather hot and dry; respiration little affected; the pulse 90, quick and small; the tongue moist and pretty clean, not red, but rather pale and flabby; the bowels rather constipated, but no pain or tenderness about the abdomen, and withal excessive irritability of the nervous system. After weighing carefully the symptoms, I came to the conclusion that there was no cerebral inflammation, but that the case was one of common fever, with unusual excitement of the nervous system. Taking this view of the case, I commenced the treatment by giving an aperient powder and a common diaphoretic mixture to be taken every four hours, hoping by these means to allay the ordinary febrile symptoms. To soothe the nervous irritability and relieve the violent cephalalgia, I prescribed five grains of the extract of hyoscyamus three times a day. The next day the headache and excitement were both much lessened. I increased the dose of hyoscyamus until gradually it reached in three days to seven grains and a half three times a day: I had no occasion to push the dose any further; the excitement passed away; the headache disappeared; the skin became cool and moist; and in six days from the commencement of the fever the patient was convalescent. That the hyoscy-

mus acted decidedly, in allaying the nervous symptoms in this case, is evident from the fact that the very day after she began to take it the headache and excitement were both lessened, though the fever was still continuing, and did continue for several days after, as was shewn by her tongue becoming dry and foul, her skin keeping dry and hard, and the pulse still keeping up.

Though there was at this time no epidemic of fever in the town, and we were only called to an occasional case, we had soon evidence enough that even in sporadic cases there was a peculiar type then prevailing, marked by an evident excitement and irritability of the nervous system, very much resembling in the character of its symptoms incipient arachnoid inflammation. Cases of this kind continued to present themselves for about seven weeks. I noted ten simple cases free from any complication, and one case complicated with derangement of the chylopoietic viscera, partial suppression of bile, slight jaundice, and subacute enteritis. The head and nervous symptoms in this case were at the first well marked, and relieved by hyoscyamus; but afterwards the abdominal symptoms became so serious that the patient had to be put under the influence of mercury by giving calomel and opium: the belly became quite tympanitic. This symptom was relieved by applying turpentine stupes, and by giving turpentine internally. For some days this case threatened to become down-right typhus; but wine was given freely, and her convalescence was decided as soon as the gums were touched by the mercury and the tympanitis controlled by the internal and external use of turpentine. This girl had become affected with this fever as her brother was recovering from an uncomplicated attack of fever of the same type. The mistress of the adjoining house presented at the same time another well marked case. She was a woman of a very nervous temperament, and the symptoms persisted in her case a very long time: she was for more than two weeks too feeble to sit up; her pulse kept over 100 for several weeks more, and she was obliged to take quinine for some time before her health was restored to its usual tone.

Such a condition, however, might naturally be expected from a fever of this type arising in a subject of so very nervous a temperament.

One of the last cases of fever of this type which I met with during the season was, on the whole, the most interesting and instructive.

Mrs. W., ætat. 40, of a full plethoric habit; rather corpulent. She had been ill for three days. The face was flushed; there was violent and persistent headache, and the other symptoms noted in the previous cases, with this difference—that the face was much more flushed and the pulse much firmer: so much so that I felt strongly inclined to apply leeches to the temples; but, observing the close analogy between the symptoms in this case and in the others noted above, and believing that her sanguine temperament might sufficiently account for the firmness of the pulse and flushing of the face under the influence of intense nervous excitement, I ordered an aperient mixture (to be taken every three hours *ad effectum*), a diaphoretic mixture to be continued, and six grains of extract of hyoscyamus every six hours. I must confess that I did not feel quite positive that I had arrived at a right conclusion; consequently it was with no little pleasure that I found my patient the next morning decidedly improved, her skin cooler, her pulse slower, feeble, and softer, her headache much better, and her thirst abated considerably. The dose of hyoscyamus was increased, and in three days more she was quite convalescent, and free from every unpleasant symptom.

I regard this case as a particularly instructive one, for, if I had only been influenced, in forming my diagnosis, by the features which the case itself presented, I should certainly have come to an erroneous conclusion; but by weighing the symptoms of this case (making allowance, at the same time, for the degree in which they were modified by peculiarity of constitution) with the group of symptoms presented by a series of cases of the same stamp, forming in themselves a type, although certainly of very limited range, I was enabled to make an accurate diagnosis, and to arrive at the proper indications for effecting a rapid and decided cure. At the same period, I had a series of

cases, of a milder character, which presented no peculiarity, except an excessively spongy and hæmorrhagic condition of the gums: these were all free from any serious complication.

Contemporaneously with these two separate types, another group of cases presented the symptoms of cerebro-spinal arachnitis, being, apparently, of the same character as the epidemics which have occurred of late years in France and in Ireland, as described by Dr. Mayne in the *Dublin Quarterly Journal* of August, 1846; however, I believe, with this difference, that these were cases of common fever, in which the type of the disease tended towards arachnoid inflammation, rather than purely cases of arachnitis. I was not fortunate enough to meet with any case while the disease was in its early stage; consequently, though I feel convinced that bleeding would not have been admissible, I am not prepared to say positively that the symptoms present at the very commencement might not have required more or less depletion. But called to the case when of several days' standing, I found the little patient (for they were all children, and nearly all boys, as in the Irish epidemic) lying in a stupid lethargic state, the skin dry and hot, the tongue dry and furred, the extremities inclined to be cold, the expression of the countenance deplorably anxious in some cases, in others irritable and peevish; in the latter the arms were tossed about restlessly, and the child was very cross. In these cases the head seemed more affected than the spine; in the former the patient lay quiet and stupid, with his head thrown back, fixed in a tetanic position, the shoulders gathered forwards, and the dorsal spines humped backwards. The child was always cross when moved, and cried if the spine was pressed on; in all the cases the urine was scanty and high-coloured, the secretions from the intestines dark, green, and fœtid.

I am disposed to regard these rather as cases of fever rendered of a peculiar type by a tendency to arachno-spinal inflammation (prevailing at the same time in other localities as an acute disease) than as cases of a modified form of that disease which prevailed lately in France and in Ireland; or

perhaps it would be more correct to say, that the epidemic, which in other places had been appearing as an acute disease, in the crowded and foul streets of Liverpool, and acting on constitutions obnoxious to many depressing influences, degenerated into a low fever of a peculiar type.

I arrive at this conclusion from the following reasons:—

1. I met with no case which at the end of three or four days would bear the application of even a few leeches.

2. The symptoms were not violent; there were no convulsive twitchings, except in two cases, in which the head was the part most affected, and even in them only when they were drawing to a fatal termination.

3. That each case required stimulants from the outset, (wine, carbonate of ammonia, chloric ether), and improved by their use.

4. That nearly all the cases eventually recovered.

I met with nine cases of this affection; in five, the spine suffered most, in four the head; three terminated fatally; two were head cases; one a spinal case; this last case was lost by the indifference and supineness of the mother. Besides giving stimulants, I got them quickly under the influence of mercury, blistered along the spine, and, when the head was much affected, had it shaved and ointment of potassio-tartrate of antimony applied, until the characteristic eruption was produced over the scalp.

It has long been well known that the type of common fever is continually undergoing change, but I am not aware that it has been often noticed that there may be several varieties in the type of fever existing at the same time and in the same locality.

I believe this is particularly the case when there is no epidemic prevailing, for, as the summer advanced, most of our fever cases became complicated with dysentery and diarrhœa, and, as fever became more general, this variety in the character of the symptoms gradually ceased to be perceptible.

Liverpool, 16, Park Street,
April, 1847.

ON A
NEW FORM OF VALVE FOR ETHER
APPARATUS.

By NORRIS F. DAVEY,
Resident Surgeon of the Millbank Prison.

ONE of the first essentials in the construction of an inhaling apparatus is such a diameter of the tube conveying the vapour that the chest of the patient may be readily filled through it, and respiration carried on with ordinary rapidity; for it is evident that in breathing even atmospheric air through an apparatus deficient in capacity, a suffocative sensation must be experienced: this would, of course, be increased when vapours are substituted, rendering their inhalation both disagreeable and difficult.

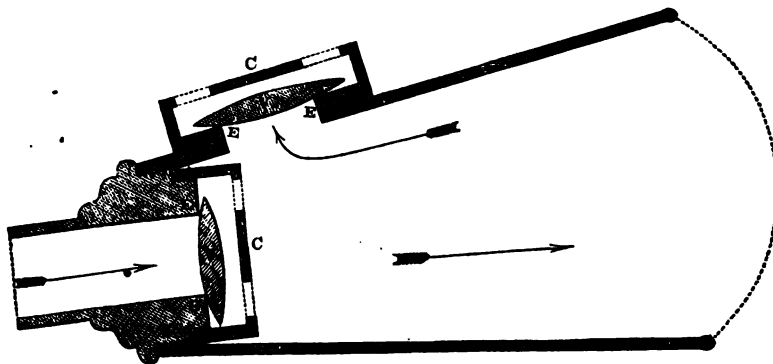
The principal obstacle to the employment of large apertures is the difficulty of constructing light valves to close them: it is to this point, therefore, that we must direct our attention, in seeking to improve the inhaling apparatus.

A valve, to close well, should fit the aperture perfectly, and require no guide: to open well, it should be light,

and not adhere to the surface against which it closes.

The forms most frequently employed in inhaling instruments are the ball, and the plate or disk valve, most other kinds being inapplicable to this purpose. The ball closes well, and requires no guide, but its weight is so great relatively to the aperture it covers, that a strong effort is required to raise it, even where of moderate size. The plate is thin, and has the advantage of lightness, closes well, and is readily raised when dry, but when moist it adheres with considerable force to the surface on which it rests: this adhesion must always occur in an inhaling apparatus, as the valves quickly become moistened with condensed vapour.

The form I propose to use partakes of the advantages of the ball and plate, without the weight of the former or the adhesion of the latter. The valve itself is of glass, in form like a common convex lens (*v*), its extreme central thickness being about one-sixth of its diameter. The surface against which it closes is shaped as in the plate valve, the margin of the aperture being turned to a perfectly even edge, on which the convexity of the valve rests when closed (*x*): the whole is covered by a perforated cap (*c*).



A valve thus constructed always falls upon the aperture in a proper position, and stops well; it is light even when of large size, and, from its convexity closing against an edge only, is almost entirely free from adhesion whether moist or dry. It is, moreover, durable and clean.

By making the perforations in the top of the cap instead of the side, the valve will act well in any position,

closing with facility even when inverted, because the current of air or vapour presses directly behind it; the bi-convex form effectually prevents closure of the holes in the cap when the current is passing in a contrary direction, and protects the edge of the glass when suddenly raised: it also admits of being turned in the event of one side meeting with injury.

Instruments made with common

plate valves may be easily improved by slightly cutting down the plane surface, so that the margin of the aperture may form a projecting ridge: a cap should be provided, perforated as described, a central convexity being made either on its under surface or the upper surface of the valve. The adhesion will be almost entirely destroyed, and the valve will act in any position.

April 19, 1847.

CONDITION OF THE URINE IN THE INSANE.

THE condition of the blood and of the urine in insane persons has lately occupied the attention of Dr. Erlenmeyer. With regard to the latter of these fluids, he observes that it may occur in two opposite conditions in insane persons: first, the urine may be pale, deficient in solid constituents, especially in uric acid and its combinations, and consequently of low specific gravity; this condition is found chiefly in melancholics and maniacs. Secondly, the urine is found in a condition exactly opposite to the former, being high-coloured, rich in solid constituents, especially in uric acid and the urates, and consequently of a high density. Such is the condition of the urine in idiots and epileptics. The urine of patients subject to periodical attacks of mania is very similar to that of epileptics: in both its specific gravity is much greater than it is in idiots.

Urine of the first-described variety has a great tendency to become alkaline; this is especially the case in maniacs, in whom the urine is frequently alkaline when first passed. The tendency is less marked in melancholics. Decomposition of urea is the cause of this alkalinity: it occurs therefore more rapidly in summer than in winter. The more tendency there is in the urine of melancholics to become alkaline, without any organic disease of the spinal cord or brain to account for it, the greater liability is there of the case becoming worse, and passing into one of mania. In the second variety the urine has little tendency to become alkaline: indeed, it often retains the acidity for a considerable time longer than does the equally acid urine of healthy persons. In the first kind of urine, phosphatic sediments (especially the ammonio-phosphate of magnesia) frequently form; in the second kind there is, on the contrary, a tendency to the formation of urate of ammonia, and crystals of uric acid, albumen, sugar, biliary matter, pus, and such like foreign substances, are of rare occurrence. Fat, however, is frequently found.—*Oester. Med. Wochenschrift*, Dec. 1846.

MEDICAL GAZETTE.

FRIDAY, MAY 7, 1847.

THE great "Flitcroft" case recently tried at the Bolton Quarter Sessions demands a passing notice from us, if only on account of its being one of the first convictions upon an indictment for a misdemeanour under the Apothecaries' Act.*

A man of the name of Flitcroft was charged with having, for a long time, practised as an apothecary, by giving advice and administering medicines, without having undergone an examination, and without possessing a certificate. He had not had any medical education, but was first a bricksetter and afterwards a police officer; then a bricksetter again, and then he began dabbling in the dangerous practice complained of. It appeared he had a room in which were shelves and bottles, and which was open to any one who thought proper to consult him. The first case to which the attention of the jury was called occurred in December last, when the mother of a poor child who was supposed to be ill of the scarlet fever applied to him, and without seeing the child he recommended medicines; he afterwards went to the residence of the child, and administered medicines to it. The child grew worse, and at length died. In another case a wife applied to him on behalf of her husband, and he mixed medicines and sent them, and gave his advice as to what the man was to do. This man afterwards died.

It is but justice to the mock apothecary to state, that he was not charged with having caused the death of these two persons; for although the medicines administered were not proper, there was no proof that they had produced serious mischief.

The evidence against the defendant was very clear. The powders pre-

* On the new powers claimed by the Apothecaries' Society to institute criminal prosecutions against offenders: see *MED. GAZ.* Jan. 1, 1847, p. 21.

scribed in the alleged case of scarlatina consisted of *Lobelia inflata* and Cayenne pepper. He visited the child on several occasions; and there could be no doubt that he had acted as a medical practitioner, although one of a very humble class, his charges for medicine being exceedingly moderate. It did not appear that he *called himself* an apothecary, or that he practised upon those who employed him, any deception as to his qualifications. One witness who consulted him for rheumatism deposed that he had a sign over his door with the following inscription:—"Ellis Flitcroft, vender of herbs from America: licensed to sell tea and coffee." In the defence it was alleged that Flitcroft acted only as an assistant to a Mr. Coffin (an ominous name), who was an American physician practising at Manchester; and that he had merely sold "herbs and plants" prepared by the said Coffin.

The Counsel for the prisoner contended that the defendant was not guilty of an offence within the meaning of the statute, namely, of having acted as an apothecary in the borough. *It had not been attempted to be shown that he had ever held himself forth as such*; and it would be seen from the sign which had been described by one of the witnesses, that he was merely a vendor of American herbs. The evidence showed that *lobelia*, one of the articles in question, was a vegetable production of America. He would show that the defendant was an assistant of Mr. Coffin, not for the purpose of visiting parties as an apothecary, *but for vending peculiar herbs and decoctions*. He purchased the same from Mr. Coffin, who prepared them, and they were transmitted to the defendant for sale. If Mr. Coffin himself were there, all that could be proved against him was, that he had acted in a similar manner to the great hygeist Morison, in vending his own medicines. The principle of the practice of Mr. Coffin was, that it was found that there was a natural tendency in the human constitution to depletion, and he went upon the argument that the best remedy

for cases of such a description were stimulants. *Lobelia was a vegetable production which, if administered in certain quantities, was a purgative*; and it was held that in cases of fever it should be administered for the purpose of depletion. It was to keep down inflammation, whilst *capsicum* raised the heat of the human system. One feature also in Mr. Coffin's system was, that he did not trouble his patients *with a quantity of dog Latin*. The parties who had been named to the jury never solicited the attendance of the defendant *as an apothecary*; but had gone to him for a special purpose, namely, for Mr. Coffin's medicines, knowing him to be Mr. Coffin's agent. No doubt some of the vegetables used by Mr. Coffin were in the *Pharmacopœia*, as had been stated; but it did not follow that because such was the case the whole *Pharmacopœia* was accepted by him; Mr. Coffin had a book which *recommended certain medicines for certain diseases*, and in following that out as he had done, he (the learned Counsel) could not see that Flitcroft had acted *as apothecary*. They had heard of no prescribing by him in principle. There had been *no written prescription*. Certain persons had desired him to go and see their sick relatives, and he had gone there; but he (the learned Counsel) submitted that the circumstances were different to those in the cases which had been quoted. On the part of the defendant, he complained of his having been dragged before the Court in the manner he was, inasmuch as the party prosecuting might have proceeded against him in a manner more *congenial to his feelings*, and to the feelings of others, by basing the case on the 20th section, which inflicted a penalty of £20 upon persons acting as apothecaries, and £5 for acting as assistant-apothecaries, without authority! In dealing with an extreme statute like the one in question, he contended it ought to be construed quite literally; *and that the offence, as named herein*, should be proved by incontestable evidence, which, he submitted, had not been done. If Flitcroft *was held to have broken the law*, what was to become of the venders of such medicines as *Cockle's Antibilious Pills*, and *Blair's Gout Pills*? And he should tremble for old women above sixty years of age,

all of whom, from the experience they had had, were in the habit of recommending remedies for diseases. The only question for consideration was, whether the *defendant had acted as an apothecary within the meaning of the Act of Parliament.*

Notwithstanding the ingenuity of this appeal, it was clear that the defendant had transgressed the provisions of the statute. The Recorder charged the jury to this effect, and after a short deliberation the prisoner was found guilty, and sentenced to a month's imprisonment.

This case at any rate shows that the new powers assumed by the Apothecaries' Society under their Act, are quite sufficient to bring transgressors to justice. It is also not a little remarkable that the result of this case proves them to be greater for the repression of illegal practice than those which would have been conferred by Sir James Graham's Medical Reform Bill. Had this become the law of the land, we doubt whether any prosecution could have been successfully undertaken against the American "vender of herbs." The 31st clause imposed a penalty of twenty pounds upon any unqualified person practising as an apothecary: but it could only be recovered by action of debt in the courts of Westminster. As against the race of Flitcrofts, the clause was a nullity; for who would think of bringing an action of debt in the superior courts of Westminster against a poor tea and coffee dealer? *Le jeu ne vaut pas la chandelle!* Under the 33d clause, the defendant could not have been prosecuted, since he appears to have succeeded very well as a medical practitioner under the title of "vender of herbs," without falsely pretending to be a physician, surgeon, or apothecary, or assuming any title implying that he was licensed to practise. This case, therefore, shows what we long since stated as our belief, that the

Medical Reform Bill, while it professed to check illegal practice, was quite unfitted for the purpose. It pretended to effect what the framers evidently did not intend it should accomplish; and had it passed into a law, it would have taken away powers which have been here successfully put in force.

The good which will be done by prosecutions thus instituted, must materially depend on the judgment and discretion exercised in the selection of cases. This appears to us to have been a decided case for interference. The poor ignorant people who consulted the defendant, required that protection which the law is bound to afford to those who have not the power to protect themselves against the tricks of the artful and designing. Any reasonable person must perceive that the ex-bricksetter and policeman in this case, was picking the pockets of his neighbours, by his doses of cayenne pepper and lobelia, under "false pretences," as much as if for a like sum of money, he had professed to tell their fortunes or to recover lost property by magic. We do not see how this proposition can be denied, and if we admit it, we must, in order to maintain our consistency, either abandon penal laws for pretended fortune-telling and witchcraft, or allow that a prosecution is perfectly justifiable and proper in such cases. Sir James Graham contended as an argument for the benefits conferred by quackery on the public, that "the pleasure was as great in being cheated as to cheat;" but for some unexplained reason he did not make this, as he ought to have done, a ground for repealing the statutes against witchcraft and other forms of roguery: he appears to have considered that the pleasurable part of the affair was in allowing designing knaves to profit by the credulity and ignorance of the public, regarding the

practice of medicine only! So long as they confine themselves to the cure of human ills by pennyroyal water, raspberry leaves, cayenne pepper, and even moderate doses of lobelia, (the pharmaceutical materials with which Flitcroft worked on this occasion), the public may not always discover their mistake; but when we come to strychnia, veratrina, and bitter almond water, or other "*vegetable medicines*" of the like nature, the case is different: and if, in the event of death, it be worth while to undertake a solemn prosecution for manslaughter, we cannot see why it should be beneath the dignity of a government to interfere with a practice which may lead to such serious results! The desire to gratify the pleasure of being cheated, should not be allowed to outweigh the great risk to life which must be incurred by ex-policemen prescribing "herbs, roots, and barks," for the pretended cure of disease, upon the vulgar notion that whatever is a *vegetable* production can do no harm. Flitcroft tendered evidence on this occasion that he did not use a single *mineral* in his practice: as if vegetable poisons were not infinitely more numerous and deadly in their effects than those which are derived from the mineral kingdom!

This is a small beginning; but the case is sufficient to teach those who have hitherto set the law at defiance by reason of the great expense of the proceedings by civil action under the 20th and 21st sections of the Act, that they can no longer practise as apothecaries without a license. We trust, however, that these prosecutions will not assume the character of persecution;—that those individuals only will be indicted under this clause of the statute, who are not only without any kind of qualification but who have no pretence to medical knowledge. These are the cheats of whom the

Apothecaries' Society should make a public example. No Reform Bill can be effectual which does not include them in its provisions: for even admitting the excuse sometimes put forth in favour of quackery, that a person who is given up by the faculty, as one labouring under an incurable disease, should not be deprived of the liberty of consulting an unlicensed practitioner,—such a justification could not possibly hold good in the minds of reasonable men, in favour of brick-setters and ex-policemen, who with their herbs, roots and barks, are, in their ignorance, much more likely to poison their patients, than to cure or benefit them.

We understand that land-scurvy is becoming prevalent in various parts of the kingdom. A great many cases, with the features resembling those of sea-scurvy well marked, have been lately brought into the Edinburgh Infirmary. The patients had been labourers on railways, living on bad diet, and working on moors far from villages, so that they were not able to procure milk or vegetables, or even the common conveniences for cooking their food. It is singular that, owing as it appears to the great dearth of vegetable food, a disease which has been long extinct in the navy, is now making its appearance on land. The deaths from purpura registered last week in the metropolis were 5 against a spring average of 0.4.

INCREASE OF FEVER IN IRELAND.

DEATHS by famine are happily becoming rare, but fever is creating great ravages. The accounts from Kerry, Galway, Roscommon, and Longford, are of an extremely unfavourable character. In the union workhouse of the latter county the number of deaths in the year ending the 1st of April, 1846, was 112, while for the corresponding period this year they amounted to 677.

Reviews.

On Indigestion, and certain Bilious Disorders often conjoined with it; with Notes on Diet, &c. By G. C. CHILD, M.D., Physician to the Westminster General Dispensary. 8vo. pp. 219. London: Churchill. 1847.

WE infer from our examination of this work that the author has had a very fair share of experience on the subject on which he has written; and, although there is no novelty in the mode in which he has treated it, the volume is well deserving of perusal. In about twenty chapters, Dr. Child gives us a complete history of that very common disorder which all persons know under the name of indigestion or dyspepsia, but which few can pretend to define. In the author's opinion, indigestion and dyspepsia are synonymous terms, and may be considered to imply "habitual uneasiness while the food in the stomach is being converted into chyme." This definition will by some be regarded as too restricted, and by others as not strictly accurate. Imperfect or disordered chymification are terms which would perhaps better convey the author's meaning; for in many cases, as we understand the facts, the uneasiness exists while the food is *not* being converted into chyme, but into acetic acid by fermentation, and into other abnormal products. Passing over the definition, however, Dr. Child has treated his subject in a comprehensive manner without being tediously minute. The varieties of indigestion, and the different plans of treatment proposed, are carefully examined and compared with the author's own experience. As a specimen of his style, we here quote some of his remarks on the treatment of that troublesome complaint, pyrosis:—

"The mineral acids, being astringent tonics, are especially suited to relieve obstinate pyrosis in feeble individuals. Sometimes the sulphuric, sometimes the nitromuriatic acid succeeds best; nor can the one best adapted for each particular case be always determined beforehand. If there be much debility, however, the former should be first tried, and the latter if bilious disorder be conjoined with indigestion. It is perfectly consistent practice to prescribe regular doses of acids and occasional doses of alkalies for the same patient, each medi-

cine fulfilling a separate purpose. Alkalies are merely palliative, and relieve only when the irritating fluid that has been poured out is of an acid nature; on the other hand, the mineral acids strike at the root of the pyrosis, and produce a radical cure by checking the secretion of the fluid itself, in consequence of their tonic and astringent effects upon the vessels of the mucous membrane. The mineral acids, therefore, should be given, like other tonics, when the stomach is empty; while alkalies are of little use unless administered towards the end of digestion, at the moment when the acid fluids are irritating the gastric nerves. If taken with care in this manner, the one does not interfere with the action of the other. When pyrosis is obstinate, counter-irritation to the epigastrium, as by means of a blister, is often highly useful: it operates by relieving congestion of the mucous membrane, and imparting tone to the secreting vessels.

"Acid pyrosis has the clearest relation to disorder in the digestive process, and is most under control; the insipid and salt varieties are less manageable, and the indications for curing them are obscure. When the chief cause of indigestion lies in derangement of the secretions of the stomach, much good is often obtained from small or alterative doses of mercurials. My usual plan is to give one on alternate nights, for three times; and the two preparations I have most faith in are calomel and the hydrarg. sulphuretum cum sulphure, or Æthiops mineral. Of the former, the dose should not exceed half a grain; of the latter, about six grains may be given. If the bowels be constipated, an aperient should be taken in the morning; if otherwise, it is best not to interfere with the action of the mercury. The treatment of bilious pyrosis resolves itself, first, into removing its bitter element; and, secondly, into curing the pyrosis, whether acid, salt, or tasteless, that is left behind. The bilious admixture is sometimes due to gastric irritation solely, but oftener to duodenal or hepatic disturbance. The nature of the latter and the remedies required are to be determined in accordance with suggestions contained in various parts of this work.

"Medicines can palliate, even in the worst cases; but, in order to effect a lasting cure, careful rules of diet must be enforced. In particular, fat, fried, or cured meat, pastry, nuts, cucumbers, pickles, and malt liquors, are to be eschewed. Moreover, all articles of food which, although generally wholesome and digestible, are yet found by patients to "turn to acid or water, or to ferment," as they express it, are to be avoided. Among the things in common use most apt to excite pyrosis, may be mentioned oatmeal, potatoes, fish, and tea. As a general rule,

a vegetable diet is more *acid-producing* than one chiefly composed of the easily digested kinds of animal foods: hence many patients remark that they are more troubled with acidity when they live on slops—farinaceous articles—than when they make use of a full meat diet. When bilious pyrosis occurs the first thing in the morning, it is often prevented by taking a little food before getting out of bed. Many patients find that exercise or constrained postures are sure to bring on an attack: hence clerks are extremely apt to suffer therefrom when closely confined to the desk" (p. 142).

The much-disputed question respecting the utility of *wine* as an article of diet is thus examined:—

"There is no one dietetic point in which grievous errors are more frequently made than in respect to wine; and as these appear to arise, in most instances, from mistaken ideas as to its action on the animal economy, a few words explanatory of the principles according to which it ought to be granted or withheld, may prove of service. Wine is stimulating, but not nutritious; hence, it contains nothing really strengthening to the body, although, when administered with judgment, it answers a good purpose of its own totally independent of any nourishing virtue. In certain cases it quickens the nerves, if I may be permitted to use that expression; or more technically, it bestows tone and vigour on the nerves and blood-vessels of the stomach, in consequence of which they are enabled to perform their functions with more energy than they would have done without it. The wine is not aliment in itself, but it qualifies the stomach to act with power on other substances capable of affording it. Is wine, then, good for all stomachs? or which are the *certain cases* alluded to wherein this beneficial operation may be expected?

"When the stomach is sound, no stimulation beyond that of plain, wholesome food is required; and when wine is taken under these circumstances, all that can be said is, that the vigour of the mucous membrane protects it against injury: but, on the other hand, the function of digestion by no means derives any advantage therefrom.

"When wine has been habitually taken in moderation, the stomach gets accustomed to the artificial stimulus, so that sometimes it will not work well without it. This state may at last become natural from habit, and the individual may continue all his life to drink wine without suffering from indigestion; more frequently, however, the strength of the stomach is eventually impaired.

"But it is chiefly where the stomach is weak, although perhaps not dyspeptic, that

most advantage is to be derived from the medicinal use of wine. If much wine or spirits (which in their action on the mucous membrane may be considered as concentrated wine) be taken, various evils arise. Thus the lining membrane of the stomach is over-stimulated or inflamed, and the gastric juice deteriorated, or even the secretion of it arrested. Hence, the point in prescribing wine is, to give enough to impart a beneficial stimulus without producing any of the bad effects mentioned. To fix this quantity absolutely is of course impossible; and it must always be left to the judgment of the practitioner to allow for difference of constitution or previous habits: but, at the same time, I am satisfied, from the careful observation of many cases, that the "useful" allowance will be found to lie between a half and a whole wine-glassful at luncheon and dinner, diluted with about twice its bulk of water. Patients usually, and, it must be admitted, very naturally, plead "debility" as a reason for increasing the quantity: they argue, the greater the weakness, the more wine is required; but the inference is altogether wrong. When the point of healthful excitement has been attained by the slight impulse afforded by the wine, every drop beyond that tends to mischief. The patient, it is true, may experience the fleeting sensations of comfort that arise from the use of stimulants, but the stomach pays the penalty. It is a far safer, and a much more truthful dietetic axiom, that the weaker the individual and the stomach may be, the more easily is the latter disordered, and the greater is the effect which stimulants exert on the mucous membrane. Increasing the quantity of food always strengthens the patient, provided he be able to digest it; but increasing the quantity of wine imparts no real vigour, and the moment the healthy limit is passed, the spirit in the wine tends to paralyse the functional activity of the stomach, and prevents it from digesting food so well as it would have done had it been left to its own resources" (p. 207).

We shall only add that the work is well written. The author has studiously avoided the practice adopted by some medical essayists in their first productions, of trying to give a great appearance of erudition by a large number of quotations, and by clothing their thoughts in obscure and unintelligible language.

Remarks on the Diet of Children, and on the Distinctions between the Digestive powers of the Infant and the Adult. By G. T. GREAM, Medical

Officer of the Queen Charlotte's Lying-in-Hospital, &c. Small 8vo. pp. 201. London: Longman and Co. 1847.

THIS little volume, which appears to be as much addressed to the public as the profession, refers to subjects concerning which the most absurd prejudices still exist. Although we do not approve of medical authors inditing works of a *quasi*-professional character for the instruction of the public, yet in this instance the object is praiseworthy and justifiable, as it is only by an easily accessible and intelligible manual, that the prejudicial system in the feeding and management of children adopted by ignorant nurses, can be broken through. The work really commences with the second chapter "On Digestion," in which the well-known observations of Drs. Beaumont and Combe are quoted. A chapter devoted to the *Fœtus in Utero* appears to be misplaced, and exception might be taken to some of the statements affecting questions of great importance in their way, but at the same time quite unconnected with the Diet of Infants, *e. g.* the duration of pregnancy in females, and the survivance of premature children.

The chapter on Lactation is one of the best in the volume; but the author here, as elsewhere, has evidently had some difficulty in keeping strictly to his subject: thus he discusses at length the management of women during lactation, with the effects of various kinds of diet. In a work on Midwifery this would be appropriate, but it here appears to us to be somewhat misplaced. Into the subjects of weaning and teething it is unnecessary to enter. Mr. Gream considers that until the canine teeth appear, no meat should enter into the food of infants: they should be confined to a pure milk diet. His remarks upon the progressive alterations to be made in the food as the child advances, are judicious. The "Domestic Medicine" chapter we pass over. It is quite right that every mother should know how to manage a young child under ordinary ailments; and Mr. Gream goes no farther than to initiate her into the use of a few purgatives, and to point out in strong language the danger and impropriety of employing the numerous quack medicines to which, at the annual

sacrifice of a great number of infant lives, old nurses are accustomed to resort. The observations in the concluding chapter on change of air, the effects of cold on infants, &c. are characterised by good sense. In reference to a very common practice of *hardening* children, Mr. Gream says:—

"In early infancy an ordinary tepid bath night and morning is very useful: it invigorates, and is enjoyed by the youngest child. It is, however, a mistake to suppose that the daily immersion of a child all the year round in cold water, or almost cold, renders it robust. In the summer it may have that tendency, but in cold weather the effect of such a shock is positively debilitating: a check is given to the circulation early in the morning, when the child has been long fasting, and it does not recover itself the whole day afterwards. If, however, the water is used warm it acts in winter as a stimulant: it promotes and equalises the circulation, and enables all parts of the body to resist the chilling effect of the atmosphere.

"Not less erroneous is the prevailing notion that strength of constitution is gained or established by accustoming children to bear the cold out of doors in inclement weather. The condition of a child thus exposed is similar to that of a person sitting motionless and meeting the cutting air in an open carriage; and the same consequences may be expected as commonly follow such an exposure to cold without exercise. The case is different at a later age, when children can take sufficient exercise to maintain a proper degree of heat throughout the body and extremities." (p. 193).

Although Mr. Gream's manual adds nothing new to medical literature, it will be found serviceable as a guide for the class of persons to whom it is more particularly addressed.

The Construction and Government of Lunatic Asylums and Hospitals for the Insane. By JOHN CONOLLY, M.D. With Plans. 8vo. pp. 183. London: Churchill. 1847.

As the greater part of this volume has only recently appeared in the *Lancet*, as supplementary to a course of lectures on insanity by the author, it is unnecessary here to do more than announce its publication in a separate form. The author's experience on the subject to which the volume refers has been so extensive, that those who are about to undertake the construction of lunatic asylums cannot

avoid consulting it. We could not refer them to a better source for practical information.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Tuesday, April 27, 1847.

J. M. ARNOTT, Esq. F.R.S. PRESIDENT.

On the Comparative Weights of Organs in Natives of India, and Europeans. By E. A. PARKES, M.D., Assistant-Physician to University College Hospital, and late Assistant-Surgeon to H.M. 84th Regiment.

THE results contained in the paper are derived from twenty-three observations in male Asiatics, chiefly Hindoos, and thirty-eight European soldiers. The tables show a considerable preponderance of weight, on the part of the Europeans, in the following proportions (the weight in the Hindoos being taken as unity:) of the cerebrum, as 1 to $1\frac{1}{4}$ th; the cerebellum, as 1 to $\frac{1}{4}$ th; the right lung, as 1 to $\frac{1}{4}$ th; the left lung, as 1 to $1\frac{1}{4}$ th, nearly; the heart, as 1 to $1\frac{1}{4}$ th; the liver, as 1 to $1\frac{1}{2}$; the spleen, as 1 to $1\frac{1}{2}$; the pancreas, as 1 to $1\frac{1}{4}$ rd; the right kidney, as 1 to $1\frac{1}{2}$; and the left kidney, as 1 to $1\frac{1}{2}$.

As the weight of organs in the same race and sex varies according to the age and the height, it is necessary to reduce these conditions to the same standard. (Tables are given of these particulars.)

Age and height being equalized, the disproportion between the two races is reduced, but not entirely got rid of. Assuming the weights in the Asiatics to be as unity, they are, to the Europeans, as follows: of the cerebrum, as 1 to $1\frac{1}{4}$ th; the cerebellum, as 1 to $1\frac{1}{4}$ th; the right lung, as 1 to $1\frac{1}{4}$ th; the left lung, as 1 to $1\frac{1}{4}$ ths; the heart, as 1 to $1\frac{1}{4}$ th; the liver, as 1 to $1\frac{1}{2}$ ths; the spleen, as 1 to $1\frac{1}{2}$ rd; the pancreas, as 1 to $1\frac{1}{2}$ ths; the right kidney, as 1 to $1\frac{1}{2}$ rd; and the left kidney, as 1 to $1\frac{1}{2}$, nearly.

After considering these points at some length, and deciding that the differences between the weights in Europeans and Asiatics are not attributable to differences of height, age, or unfavourable hygienic conditions, on the part of the latter nation, the weights in the Asiatics are examined more in detail.

The author observes, that the numbers examined are so few, that he should have hesitated to bring them before the Society, but that, first, he was unaware of similar observations having been made, and he therefore hoped his cases might afford assistance to any one who had the opportunity

of pursuing the subject; and secondly, that though the observations are on so limited a scale, he was struck by the great uniformity of result.

As from the tables given in the paper it appears the inferiority of the weights of the organs of Asiatics is not attributable to differences in age or height, the author thinks it a fair inference, that the form and general conformation of the body—such as the respective length of the trunk and extremities, &c.—are the circumstances which exert the greatest influence on the size and weight of the several organs—i. e., the inferiority in weight is explained by reference to inherent differences of race and nation.

What, then, is the cause of the difference? Is it to be presumed (the author inquires) that this is acquired from the peculiar mode of living, the usual food, the accustomed occupations, and the several influences of climate and situation? These points are dwelt upon at some length, and the author concludes by expressing a hope, that the medical officers of the army, whose field of observation lies within the tropics, will shortly supply us with additional means of deciding upon the correctness and importance of his few observations.

Dr. BABINGTON inquired of the author of the paper whether he had determined the weights of the individuals, as well as the organs to which the production referred. This was, in his opinion, a most important element in the inquiry, and one which must have much influence in determining the real value of the investigations.

Dr. LEONARD STEWART considered the paper likely to lead to important results, but thought that the author had used the term "Asiatics" too vaguely, for it was well known that the food of the natives of the north parts of Asia differed materially from that of those of the south, the former using much animal diet, the latter subsisting almost entirely on vegetables.

Dr. CURSHAM said that the paper had been only read in abstract, consequently many important details were necessarily omitted. He might state, that the author had not the opportunity of making complete observations, either as regarded the weight or the height of the individuals who were the subjects of his researches.

Professor OWEN regarded the details laid before the Society as of the greatest interest. Such inquiries were much neglected, but he hoped that the Society would give them every encouragement. The observations of Dr. Parkes, regarding the influence of vegetable diet on the size of the liver, was corroborated by what we observed in the mammalia, for it was well known, that the ox, camel, and other graminivorous animals, had livers smaller in proportion by one-

eight than those animals which fed on animal diet, as the lion and the tiger. These facts also established the accuracy of the able reasoning of Liebig, respecting the influence of diet. The value of researches similar to those of Dr. Parkes were dependent on the number of our observations, and the extent of the basis on which they were formed.

Dr. C. J. B. WILLIAMS observed that the paper was one of much interest, in a pathological as well as a physiological point of view. Facts were constantly presented to us, showing the effect of diet on the size of the liver. He did not know that there was sufficient in the paper to show that the size of the liver of Asiatics was more dependent on diet than on climate. The author thought that diet was the cause, and he (Dr. Williams) had seen cases to prove the truth of this opinion. He had been struck with the observation of the difference in the size of the liver of persons when under different articles of diet, in which there was no disease of the organ. Thus, he had observed a very remarkable enlargement of the liver, without any sign of disease, in those persons who had taken the cod-liver oil to any extent. The organ, in some cases, was so much enlarged, as to give rise to the idea that the liver must be diseased; but there was no sign or symptom of such disease, besides the enlargement. He thought the author's researches of great importance.

Mr. CHALK had given the cod-liver oil to a considerable extent, but had not noticed the effects on the liver mentioned by Dr. Williams.

Dr. BABINGTON remarked, that another fact to be borne in mind in this inquiry, was the smaller size of the Asiatic than the European generally. It was necessary to take this into account in our inquiry. Besides, the lower classes in India eat large quantities of clarified butter, pork, &c.

Mr. BUSK said that the average weight of the Lascar was so much less than that of the European as to explain satisfactorily the difference in the size of the organs. Lascars usually lived on rice, but if necessary, and under certain circumstances, would eat fowls, &c. if they were permitted to kill them themselves.

Dr. PARKES replied to the chief of the observations made. All the persons on whom he had made his inquiries were vegetable feeders; they were prisoners, and allowed only the gaol diet, which consisted entirely of vegetable matter. The majority of these persons, too, were of a high caste, and had, probably, never tasted animal food. He was aware that many of the lower classes in India did indulge in animal diet. It was to be remembered that the

liver and kidneys in the persons he had examined were less in proportion to their size, whilst the cephalic and thoracic organs were not so.

On Fracture of the Lower Extremity of the Radius. By PROFESSOR FENGER, of Copenhagen. [Translated from the Danish by H. M. SHAW, Esq. and communicated by Dr. HODGKIN.]

The author commences his paper by deprecating the love of display which he attributes to men of science in the present day, and which, he says, too often renders discoveries, in their estimation, secondary in importance to the notoriety of the discoverer. To this cause he assigns the want of interest with which the observations of Dupuytren and Malgaigne on fracture of the radius were first received. He then directs attention to a tabular view of 149 cases of fracture which came under his notice during nine months that he was on duty as first surgeon to the Royal Frederick's Hospital, of which it appears that thirty-one were fractures of the radius, and only one of the ulna alone; and from this table he infers that the radius is more frequently fractured than any other bone, and more than twice as often as the fibula. To the difficulty attending the diagnosis the author attributes the long neglect of this fracture, and the frequency of its confusion with sprains of the wrist. Under the head of "Causes" of this peculiar fracture, the author gives another table of the thirty-nine cases which came under his notice, from which it appears that the accident was rather more frequent in men than in women, and that age predisposes to this lesion. In treating of the symptoms of fracture of the radius low down, the author associates great importance with the deformity, as a diagnostic sign by which the injury in question may be distinguished from sprain. The straight line extending along the radius and metacarpal bone of the forefinger appears to be broken in two places: first, closely over the styloid process of the radius; secondly, between the carpus and metacarpus. This line is hereby divided into three parts, of which the superior and inferior portions are parallel, and the centre and shortest one forms an angle with the other two, thus forming a figure something like the letter Z. Of these two angles the upper one is always present in this fracture, and remains unchanged by any position of the arm. Fracture of the lower extremity of the ulna, extravasation into the articulation, and luxation of the radius from the ulna, constitute the complications which Professor Fenger has met with in cases of fracture of the radius low down. In the greater number of the cases the author found that the fracture was oblique,

beginning on the palmar side of the lower end of the radius, a little above the articulation, and proceeding upwards towards its dorsal aspect, where it terminated from an inch to an inch and a half above the joint. He believes, however, that the fracture is more often transverse than is generally supposed.

After commenting on the splints and treatment recommended by Dupuytren, Stromeyer, Velpeau, and Blandin, and stating his opinion of their insufficiency in difficult cases, the author proceeds to describe the plan of treatment he has found most successful. He states, that as the deviation occurs in a curve, with its centre upon the fracture, it is desirable to counteract the deformity by extension acting in a direction according to the tangent of that curve. This end he thinks is best attained by acting through the medium of the hand and of the capsular ligament which is attached to the lower end of the radius. The hand is first to be brought into a position of strong flexion, and the forearm is then placed on an oblique plane, with the carpus highest, the hand being permitted to hang freely down the perpendicular end of the plane. The tendons of the extensor muscles are thus brought into a position which enables them to assist in keeping the reduced fragments of the bone in proper relation. Where the deformity requires it, the displaced lower fragment is to be pressed into its position by the thumb of the operator, after sufficient extension has been made, and when the hand is bent on the forearm. The patient is to be kept in bed, but the hand is not confined, the seat of fracture being covered only by an evaporating lotion. Out of the thirty-nine cases under the Professor's care at the Frederick's Hospital, he failed but in one in effecting a cure. He has found a similar plan of treatment equally successful in fractures of the radius higher up the arm.

Mr. PARTRIDGE presented a dissection of a fracture of the lower extremity of the radius, the fracture having passed obliquely through the lower end of the bone, cutting off the styloid process, and passing into the articulation. The man had been admitted an out-patient in King's College Hospital, with comminuted fracture, which was treated on the usual principles, but in a few days after the accident he came into the hospital, abscesses having formed, and pieces of bone having come away, and he had ultimately been obliged to perform amputation of the arm. Mr. Partridge believed that the fracture was most frequently oblique, and considered it as one very difficult to treat satisfactorily.

Mr. SOLLY remarked that the Society were under a great obligation to Dr. Hodgkin for having brought the results of Pro-

fessor Fenger's experience before them. No fracture so frequently occurred, and none perhaps was so little understood. He mentioned the recent case of an experienced surgeon, who had been proceeded against by his patient for damages, in consequence of some deformity having followed the treatment of a fracture of this kind. This case had at the time excited no little interest. The treatment of this injury was attended with so much difficulty, that even with the greatest care, and in the most experienced hands, it often failed. In this country attention had but of comparatively late date been directed to the peculiarities attending this fracture.

Mr. BUSK had seen several cases of fracture of the lower extremity of the radius, close to the joint, and had lately tried a method somewhat resembling that of Professor Fenger. He also placed the arm in a state of complete pronation, elevated the hand, and depressed the elbow, but, supporting the carpus, permitted only the fingers to hang down. The results arrived at by him under this treatment appeared satisfactory. The weight of the hand would, he considered, prove too fatiguing for the patient if continued in the position used by Professor Fenger for any length of time; nor did he think it possible or necessary to keep the patient in bed so long. In his own cases the patient kept the arm in a sling and went about. He could not think that when the whole hand hung over the end of the splint, as recommended by Dr. Fenger, the stretched tendons would act as "a natural splint."

Mr. ARNOTT said the nature of this accident was described thirty years ago by Colles, of Dublin, whose description had been reproduced by Smith, of Dublin, in his recently published work.* Dr. Smith described the fracture from an examination of twenty specimens, and has given nine or ten illustrations of the appearances. He was fully aware of the difficulty attending the diagnosis and treatment of this, having himself suffered many years since from having had his arm broken not far above the articulation, and could bear witness to the pain and extremely disagreeable sensations attending the application of Dupuytren's bandage. He was inclined to think favourably of Professor Fenger's method, by which the extension was produced by the weight of the hand acting through the medium of the capsular ligament, and was glad that Dr. Hodgkin had made it known to them.

Dr. HODGKIN disclaimed any other merit than that of having received the paper from Mr. Norton Shaw, the translator. Mr. Shaw had studied many years in the north of Europe, and being present, would

* A Treatise on Fractures and Dislocation in the Vicinity of Joints. Dublin, 1847.

perhaps favour them with his views on this subject.

Mr. SHAW was aware that this fracture had been termed in Dublin, Colles' fracture, having, many years ago, been described by that distinguished surgeon; but as it seemed that Mr. Colles had not enjoyed an opportunity of performing any post-mortem examinations of this fracture, he believed nothing new concerning its pathology had been made public by that gentleman. Petit, Dessault, Sir Astley Cooper, and others, had likewise treated it in their works; but until the year 1834, its pathology had remained comparatively unknown. In that year, Geogrand, Malgaigne, and Dupuytren, about the same time, made known the results of their experience, and called the attention of surgeons more especially to the pathology of this fracture. The frequency of its occurrence, and the difficulty attending the diagnosis, had been admitted. When existing in a slight degree, it was liable to be mistaken for a distortion or dislocation of the wrist, and when in a greater degree, for a luxation of the same. In the London Hospital, from which alone he had been able to procure statistical data for any lengthened period, the fractures of the radius, ulna, and of both bones together, were reckoned as fractures of the forearm, without distinguishing them from each other. Knowing, however, how very much the number of fractures of the radius predominated over those of the ulna, or of both bones together, the frequency of this fracture might be easily conceived. In 1842, there were treated at the London Hospital 840 fractures, of which 153 were of the forearm. In 1843, there were 899 fractures, and 156 of the forearm. In 1845, 952 fractures, 200 of which were of the forearm; and in 1846, there were 954 fractures, with 176 of the forearm. In the five months, from May to October, 1846, at the King's College Hospital, there were treated eighty-four fractures, fifteen of which were of the forearm, twelve of radius, and three of ulna. Acknowledging, then, the frequency of this fracture, and the repeated failures attending its treatment (Velpeau cures but thirty out of fifty), thus causing a partial, if not total, loss of the use of the hand and fingers to a great number of our fellow-beings, it will be readily conceded that any rational plan, by which a more favourable result may be attained, is worthy the notice of the profession. Mr. Shaw hoped, therefore, that the method adopted by Professor Fenger, by which such pleasing results had been obtained, and of which a modification had already been successfully tried by Mr. Busk, Mr. Hamilton, and others, would meet a kind reception and fair trial among English surgeons. As it had been remarked by Mr. Busk that it would be no easy thing

to keep patients so long in bed with this fracture, Mr. Shaw thought that a splint, in which the arm could be supported, permitting the hand, at the same time, to hang freely down, or rather, to be fastened down, might be used, and the patient could, under certain restrictions, be allowed greater liberty. To the other objection, that the patient would not be able to sustain the weight of the hand so long a time hanging down, as would be necessary for the consolidation of the fracture, he remarked that this position seemed to him the most natural—at any rate, less constrained than in starch bandages, Dupuytren's splints, &c.; and that the patients, in the numerous trials made by Professor Fenger, had not experienced more difficulty than might be reasonably expected under such circumstances.

PATHOLOGICAL SOCIETY OF LONDON.

Monday, April 5th, 1847.

Dr. WILLIAMS in the Chair.

IN the report of the case of *Dislocation of the Astragalus*, brought forward at the last meeting by Mr. Liston, it should have been remarked that "the astragalus was so tilted on itself that the under surface looked towards the outer malleolus, being confined by the peronæi tendons which passed over its posterior aspect, the head of it being tightly embraced by the annular ligaments and tendons of the extensor longus digitorum, which rendered reduction impossible." An analogous case had come some time ago under the notice of Mr. Liston, in which, although the foot was put straight, it was impossible to reduce the bone.

In the case of *Contents of a large Inguinal Hernia*, which had been dissected by Mr. Morton under Mr. Liston's superintendence, it should have been stated that "the peculiarity of the specimen was the presence of a much more extensive peritoneal investment than ordinary, to the cæcum and ascending colon, which had, by a movement 'en bascule,' descended into the sac. The caput coli had, in fact, a complete mesentery (instead of merely descending with its 'fleshy connections,' as stated by Scarpa), so that it was reducible with the greatest facility,—a fact of importance in a practical point of view, the opinion generally entertained being that it was irreducible."

Dr. OGIER WARD stated that he had made an attentive

Microscopic Examination of Sections of a Necrosed Bone

exhibited by him some time ago. He found that the upper part of the bone, which had suffered acute necrosis, exhibited not only a discolouration round the Haversian canals,

but that the discoloured portions were corroded out, and separated from the sound parts when the sections were made very thin; though in thicker sections the structure seemed unimpaired, and the canaliculi were apparent even in the discoloured parts, whereas the lower part of the bone, which presented the appearance of ordinary caries, exhibited no change in its minute structure. The necrosed portion had a very offensive smell, from which the carious portion was free. He concluded that the disease originated in the necrosed portion itself, and that the periosteum and soft parts became secondarily affected in order to give exit to the dead bone which had been destroyed by the pus or other corrosive matter thrown out by the vessels in the Haversian canals; also that the carious portion being only affected by the disease of the periosteum surrounding it, suffered no change in its internal structure. In a drawing by Mr. Bowman, exhibited to the Society, the dilatation of the Haversian canals in acute necrosis was well shown.

Dr. QUAIN read a communication from Dr. Hughes Bennett, on the nature of the cerebral tumor, a microscopic preparation of which was exhibited at the last meeting. A portion of the tumor had been incinerated in a platina crucible, and reduced to a white ash, in which the globular bodies of which the tumor was mainly composed were still apparent. The investing membrane had been destroyed, but the bodies themselves, though rounded, brown, and opaque, were unchanged in form, with the exception of a crenated margin, and the presence of distinct concentric rings. A considerable quantity of phosphates entered into their composition. On the addition of diluted nitric acid the phosphates were removed and a true organic structure left. They undergo no change on being boiled in ether, proving that they are not fat.

Dr. GARROD had also made a chemical examination of these bodies, and found them composed chiefly of phosphate of lime and animal matter; that when incinerated, they were insoluble in acetic acid and alkalies, but soluble in hydrochloric and nitric acids, and precipitated from its solutions by ammonia. They broke easily, separating into their component strata.

Mr. NATHANIEL WARD remarked that the bodies under consideration appeared analogous to those described by Valentin, as occurring in the choroid plexus and pineal gland, and which he states appear under the microscope, at first sight, something like air-bubbles, but on closer examination are found surrounded by a clear transparent membrane, so as to appear to be contained in a cell formation. On being pressed they break in a radiated manner, transversely or irregularly;

after treatment with acids the organic skeleton remains, and the concentric structure is still visible. They are with difficulty converted into an ash under the blow-pipe, and even then preserve their laminated arrangement. They are composed of carbonate of lime, with the basic phosphate mixed up with a little phosphate of magnesia and ammonia.

Dr. BABINGTON read a case of
Cyanosis dependent on patent Ductus Arteriosus, with Disease of the Aortic Valves, &c.

The heart was exhibited. The patient, a female, aged thirty-four, of phlegmatic temperament and stunted development, was admitted into Guy's Hospital in January 1847, under Dr. Barlow, and afterwards Dr. Babington. The countenance was pale, puffy, and abundantly streaked with dark-coloured capillary veins. She had scarlet fever at sixteen years of age. She never had rheumatism, nor other known existing cause of heart disease. When six or seven years of age she suffered from palpitation, shortness of breath, occasional sickness, and swelling of the legs and ankles. She was also subject to cough, and expectorated a good deal, the sputa being occasionally streaked with blood. When fourteen years old she went into the country, and began to grow out of these complaints. She first menstruated at eighteen, and for a time did so pretty regularly. At twenty, her old complaints returned. These symptoms continued, with little alteration, until her twenty-third year, when she came to reside in London. The menstrual discharge then became scanty, and at her twenty-eighth year entirely ceased for a period of five years. During this time she had pain at her proper periods, but the catamenia did not flow, and while this was the case her general ailments were always more severe. After this she returned to the country for eighteen months, when the catamenia reappeared for three months, but again ceased on her return to town. She entered Guy's Hospital in August last, under Dr. Addison, for the symptoms already mentioned, and went out relieved in three weeks; since that time, however, she has been gradually getting worse. On admission she complains of headache, palpitation, pain below the left mamma, shortness of breath, and cough, which symptoms frequently keep her awake at night, and disturb her rest by sudden startings and frightful dreams. The tongue is dry, and the tonsils are enlarged. She feels nausea occasionally, but says she digests her food well. Her legs and ankles are swollen. The bowels are open. Urine is natural in colour and quantity. The chest is narrow, contracted, and very promi-

ment. The impulse of the heart is forcible; both its sounds are prolonged, (and distinctly audible all over the chest,) but the second especially so. They are accompanied by two loud sawing murmurs, which are heard over the whole præcordial region, but most loudly over the third and fourth sterno-costal articulations, as well on the right as on the left side. There is also strong impulse felt, in this situation, on both sides of the sternum. Immediately after the flap of the valves (which is loud) there follows a sharp click, which is the commencement of the second murmur. This murmur is also heard distinctly over the second sterno-costal articulation. Both sounds are heard over the back of the chest, and down the spine to the sacrum. The heart's action is irregular. Pulsation can be felt at the top of the sternum. The pulse is irregular, about 88—94. During her stay in the hospital, an ecchymotic spot appeared about the middle of each cheek, slightly elevating the skin, and giving a sense of roughness under the finger. She scarcely received any benefit from treatment, but gradually wasted, and sank exhausted on Tuesday, 13th April, at twelve o'clock at noon. While under Dr. Addison's care, the late Mr. Wilkinson King saw her, and from his conversation with her he learned that she was a seven months' child. He then diagnosed "patescence of the ductus arteriosus."

Examination of the body, twenty-five hours after death.—The body emaciated; the feet and ankles slightly cedematous; the superficial veins, everywhere very numerous, distinct, and dark; and the ecchymosis on the cheeks was still distinct. The head was not examined. The abdomen contained about a pint of ascitic fluid. The liver was slightly contracted, and rather smaller than natural. The lungs were small—some parts of their edges emphysematous, and some portions of the lungs more fleshy, looking as if they had never been expanded by air, like the lungs of a foetus. These portions readily sank in water. The pericardium was large, and contained about double the natural quantity of serous fluid. The whole heart was enlarged, and, with the great blood-vessels attached to it, weighed one pound two ounces avoirdupois. Both ventricles are dilated, and their parietes thickened. The mitral valve has a few very small vegetations on its auricular aspect at its insertion in the auriculo-ventricular ring. The lining membrane of the left ventricle is thickened and opaque, but particularly so towards its outlets. The aortic orifice is diminished in calibre, measuring $2\frac{1}{4}$ inches. From the anterior aortic valve there is a large vegetation, about the size of a filbert, occupying about two-thirds of its ventricular

surface, attached by a broad root, commencing at its free edge. This vegetation is chiefly bony and cretaceous. At the middle of the aortic surface of this valve there is an opening larger than a quill, leading into this vegetation, and which forms a small aneurism, and which, when the heart was opened, contained very dark coagulated blood. The next valve is perforated by several small openings (six in number). On its ventricular surface also there are fibrinous vegetations. The third valve is bound down by a strong band from its ventricular surface to a circular spot, a quarter of an inch in diameter, at about three-eighths of an inch below its ventricular margin. This spot now looks very like an ulceration, the band having been roughly detached from it. Through this valve, which is seven-eighths of an inch in length, there is a large, irregular, but somewhat oval, opening, running along its length, three-eighths of an inch long, and a quarter of an inch broad, about the middle of the valve. Within the aorta, a quarter of an inch above, and immediately opposite this valve, there is a miniature valve, half an inch in length and a quarter in depth, with a well-defined sharp edge, forming a little sac. The origin of the pulmonary artery is much dilated, measuring $4\frac{1}{4}$ inches. In the middle valve there are five very small openings, occupying rather its extremities, and there is one minute one in each of the other valves. The aorta is narrowed throughout. Immediately opposite, or perhaps slightly above, the giving off of the left subclavian on the lesser aortic curvature, there is a tight narrow band, more than one-third the circumference of the vessel, very much narrowing its calibre. Immediately beyond this band there is a circular opening, larger than a goose-quill, surrounded at its narrowest part by small vegetations, and leading into the pulmonary artery, the remains of the ductus arteriosus. At this spot the two blood-vessels are in perfect apposition, so that, strictly speaking, there is no ductus, but a simple opening. Nearly opposite to this opening, but distal to it on the larger concave surface of the aorta, there is a series of oblong consecutive patches, two and a half inches in length, elevated fully a quarter of an inch above the surface of the vessel, and projecting into it. Into the most proximal and largest of these runs the band already described, so that the one appears to be a continuation of the other. There is everywhere much atheromatous deposit throughout the course of the aorta.

DR. GULL remarked that the case brought forward by Dr. Babington was interesting in connection with the state of the lungs, which he had examined carefully, and which he

found to present, at the lower portions and free margins of the lobes particularly, patches of condensed pulmonary tissue, which he considered to have been *atelectatic* from birth. That this condition had caused considerable obstruction to the pulmonary circulation, throwing the blood back on the heart, and giving rise to a current from the pulmonary artery to the aorta, by which the patency of the duct had been maintained. In answer to the suggestion of Dr. Williams, that the opening was direct from the pulmonary artery to the aorta, having been the result of inflammation, Dr. Gull remarked, that such a possibility had been considered, but a comparison of this state with similar specimens showed that no length of duct had ever existed, that the forces which acted to keep open the ductus arteriosus would tend to press the vessels together, and that if the canal were carefully examined, the continuity of the structures would be evidenced.

Dr. WILLIAMS stated as a sure ground of diagnosis, where there is no other very serious lesion to obscure it, of patent ductus arteriosus, that the murmur accompanying the first sound of the heart is *prolonged* into the second, so that there is no cessation of this murmur before the second has already commenced. From this sign, taken, of course, in connection with other symptoms, he was able in two cases which lately fell under his notice to diagnosticate this lesion, and post-mortem examination proved the accuracy of this diagnosis.

Dr. PARKER exhibited a specimen of *Malformed Heart taken from a Boy, aged Thirteen, who had suffered from Birth from Cyanosis, and who had died from an acute attack of Pneumonia.*

The right ventricle had three times the capacity of the left, the walls being half an inch in thickness. The pulmonary artery large, with normal valves. Deficiency of the upper part of the septum ventriculorum, in the form of a round opening, the size of a fourpenny piece, immediately below the middle pulmonary valve. Aorta small and contracted, about one-third the size of the pulmonary artery, its canal passing obliquely downwards and forwards, and opening into the right ventricle immediately on the right of the septum, and half an inch anterior to the opening of the pulmonary artery. It was furnished with a distinct funnel-shaped membrane, apparently arising from the union of the atrophied valves. The state of the ductus arteriosus was not known, but there can be but little doubt that it was patent.

Mr. ADAMS exhibited a specimen of *Enchondroma from the Anterior Part of the Sheath of the Carotid Vessels, which had been removed by him from a*

man of middle age during life. He stated that he first perceived it, in the form of a small lump, about a year ago, which gradually increased till it had attained the size of a large walnut. It was imbedded in the cellular tissue of the neck, beneath the angle of the jaw, and was closely connected with the carotid sheath. The lower part of the maxillary gland overlapped it. The case was interesting on account of the great rarity of enchondroma unconnected with bone.

Mr. BIRKETT exhibited a specimen of *Stricture of the Urethra with Hypertrophied Bladder and Diseased Kidneys.*

The left kidney was three or four times larger than the right, which was about one-third the natural size. It presented a very distended pelvis, filled with puriform fluid and small depots of pus, both within the cortical and between the tubes of the tubular portion of the organ. Pus might be pressed from the papillae. The tubular portion was coarse. The right kidney, likewise filled with puriform fluid, presented little cortical or tubular structure. The pelvis was greatly distended. The ureters were both greatly distended with puriform fluid. The bladder contracted, the parietes exceedingly thickened, and it contained a little purulent urine; its mucous membrane red, and in patches ecchymosed and rugous. The power of the ureters was not able to overcome this violent contraction. Hence their great distension. The membranous portion of the urethra distended, and the surface covered with puriform lymph not easily detached. In front of this the calibre of the urethra was closely contracted, so much so as only to admit the entrance of a very fine probe. This constriction was half an inch in length. The tissues forming the constriction were of cartilaginous firmness. The urethra in front of the stricture appeared natural. The specimen was taken from a man aged twenty-eight, who had had stricture for five or six years. The symptoms he had while in Guy's Hospital, under Mr. Morgan, were, dribbling away of the urine, which was alkaline and loaded with puriform mucus; great pain over the pubis, the bladder being distended. No instrument could be passed, and it was deemed inexpedient to open the bladder; extensive disease of it and of the kidneys having been diagnosed. He sank on the twelfth day after admission.

MANCHESTER PATHOLOGICAL SOCIETY.

4th of April, 1847.

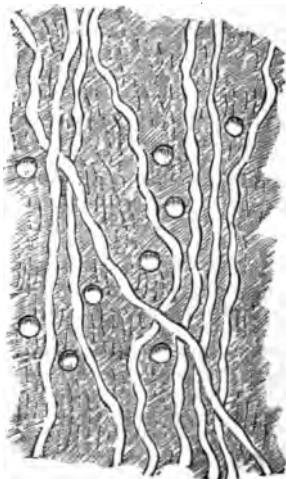
Coagulable lymph expectorated.

Dr. WATTS presented a number of membranous casts of air tubes, consisting of

plastic lymph in process of organization, expectorated daily for many months by a man affected with chronic catarrh, induration of the lower lobe of the right lung, ascites, and, probably, also with cyrrhosis of the liver.

These expectorated matters varied in size, the largest of them being two inches long by two-eighths of an inch broad, the smallest so much less as to correspond more nearly to the capacity of the minute ramifications of the air tubes; between these extremes there was every variety of size. Some of them were solid cylinders, others merely tubular casts of the air tubes, of various thickness and consistence; for the most part they were as firm as ordinary croup membrane, though some were less consistent, and others firmer and tougher; they were pearly white as to colour.

Enlarged 1000 diameters by the microscope, these casts and cylinders were seen to be composed of fibres and globules, as represented in the woodcut, showing a degree of organic development far exceeding anything seen in recent croup membrane. The specimens of croup membrane he had examined hitherto, consisted of a close compacted mass of globular particles adhering together as if glued, whilst the expectorated lymph shown to the society was engaged in the process of fibre-organization; its few remaining globules at the same time losing their distinctive characters in passing into decay.



This lymph was seemingly formed in the smaller air tubes, from the fourth subdivisions onward to the periphery, and, judging from the acoustic signs, it was present also in the capillary air tubes and air cells; it appeared to be the product of a quieter form

of disease than croup, and approached nearly in vital qualities to the nature of the germ of false membrane. If like this it be, or if on the contrary it be not, under any circumstances fitted for the development of a system of blood-vessels, cannot be positively stated; but, even granting the negative, there is in the fibre-structure evidence of its possessing a sufficient amount of organizable property for passing into a species of fibrous tissue, which, though liable to rapid atrophy from the want of blood-vessel, still, by intimate connexion with the living tissue of the air tubes, might effectually resist putrescence, dissolution, and other such decay. By this capability of organization on the one part, and the tendency to atrophy on the other, it should be very apt to produce structural lesion as well in the substance of the lung as in the air tubes.

The lesions occasionally produced by it are obliteration of air tubes with secondary atrophy of the lung, stoppage of air tubes without permanent obliteration, stoppage of air tubes and infiltration of air cells causing induration of the lung, ending in Corrigan's cyrrhosis; and it further appears to partly assist in the production of catarrhus atrophy of the lungs and Laennec's emphysema, though it is not the sole means of bringing about this particular change of the pulmonary structure.

The microscopical appearances of this specimen of expectorated lymph serve to confirm the opinions of M. Renaud and Dr. Stokes respecting obliteration of the air tubes and the wasting of the lung where tubercle is in process of deposition; M. Renaud having attributed the simple obliteration of the air tubes and puckering of the lung to this cause, and Dr. Stokes, the atrophy of the pulmonary substance, as also much of the feebleness and inconstancy of the respiratory murmur, in the the tuberculous part; the morbid product has been exclusively regarded by them as it exists and operates in the interior of the air tubes of more or less considerable diameter, or more or less remarkable minuteness.

Dr. Watts further conceived the particular induration of the lung, termed Corrigan's cyrrhosis, to be dependent upon oppletion of the air cells, and infiltration of the pulmonary substance with the same quality of lymph; in this case it is exuded into the areolar and intervascular tissue and air cells as well as into the air tubes. The organization of the lymph in the inflated part is attended with increasing induration, until it sometimes attains a peculiarly characteristic firmness, and during this time the diseased part undergoes progressive atrophy: where, on the contrary, the morbid exudation consists of less organizable lymph, such as may not undergo the fibro-organization, much

less the vascular, the induration does not pass into cyrrhosis, but, as in the more ordinary chronic pneumonia, into mere chronic grey induration, with little disposition to atrophy, but very liable at a remote period to form abscess by a sort of gangrene.

Primary phlebitis of the ascending vena cava and mesenteric veins.

Mr. DUMVILLE presented portions of the vena cava, as well as of the aorta, also the mesentery and a piece of intestine, showing the morbid appearances in a very remarkable case of primary phlebitis of the ascending vena cava and mesenteric veins.

The small intestine, in part jejunum and partly ileum, to the extent of full three feet, was almost black in colour, intensely congested with blood, swollen, and easily lacerable, and to a much farther extent the submucous tissue was cedematous, and the valvæ conniventes were as thick as the little finger; the mesentery was extraordinarily thick, and greatly congested; the mesenteric veins were much thickened and full of dark coagula, their lining membrane was violet-coloured, and coated with coagulable lymph; the vena cava, from the iliac bifurcation up to the diaphragm, was choked up with a coagulum of a pale sienna colour, its parietes were greatly thickened and deeply congested; its lining membrane was coated with false membrane and coagulable lymph, and its external cellular sheath infiltrated with induration matter; the lining membrane of the abdominal aorta had also lost much of its usual polish, and was separated more easily than ordinary from the other coats of the vessel, which was elastic, and, in other respects healthy; the fallopian tubes were permanently occluded by former adhesive disease; the peritoneal cavity contained about four pints of serum; no other morbid appearance was observed.

The patient, aged 45 years, had good health invariably, until her last confinement, six years ago, which was succeeded by inflammatory affection in the lower part of the abdomen. She ceased to menstruate in her 44th year, and more especially since then her health had not been quite satisfactory. On the first of March last, during dinner, she experienced sudden rigor, which was quickly followed by fixed pain in the belly and febrile symptoms; in the course of three days, the pain had extended to the loins, and upward in the course of the spine; it was excessively severe at intervals, and occasionally accompanied with vomiting; the symptoms increased in severity, and the stomach was more and more irritable; finally she became delirious, grew insensible to suffering, and died on the 23rd of March.

It is remarkable that of all the means em-

ployed, excessive friction with the hand along the spine was the only thing which appeared to afford any very sensible relief to her painful sufferings.

Malignant Tumors of Dura Mater occupying parts of middle Cerebral Lobe and Pons Varolii.

Dr. Renaud presented preparations from a woman whose death had resulted from pressure, caused by inflammatory softening of the brain in consequence of the irritation of a malignant tumor seated in the middle cerebral lobe on the right side, and to all appearance springing from the dura mater: also a smaller cancer which encroached upon the substance of the pons varolii. From that portion of the dura mater which adhered to the right half of the body of the sphenoid bone a lobulated cancerous tumor sprang and penetrated into the substance of the middle lobe of the brain, which was affected to some distance around with inflammatory softening. The right side of the sphenoid bone was diseased, its hard parts being so far absorbed or altered as to allow a scalpel to be pushed perpendicularly forward into the fauces through its substance. Its colour was of a dirty yellowish-green.

Another cancerous tumor adhering firmly to the membranes lay imbedded in the pons varolii, and occupied about one half of its substance. This tumor was very fibrous, the bundles tearing in a longitudinal direction: in colour it was like yellow ochre, whilst a pink areola surrounded it at its point of junction with the proper cerebral substance. There were no other cancerous growths in any other organ or part of the body.

The history of the case is very imperfect. The woman was 27 years old when she died. She is known to have had ptosis for twelve months before death, and to have been hemiplegic for a somewhat longer period. Her speech has been impaired from muscular irregularity. She was seen by Dr. Renaud two days previously to her death, at which time she lay in a state of deep stupor, and had a truly idiotic expression of countenance.

The softening of the cerebrum seems adequate to account for the manner of death; i. e. pressure, on the falling down of the pulsatous mass upon other parts of the brain.

The tuber in the middle lobe appears to have been the sole cause for all the symptoms during life. The cancer in the pons, so far as any inconveniences arising out of its presence there are concerned, appears excluded from any participation in the train of morbid phenomena, it being an acknowledged fact that two stages are distinctly to

be observed in cancers affecting the brain : 1st, where the depressed brain has suffered no alteration in structure ; 2d, where the tissue is the seat of softening and inflammation. Causes compressing the brain produce also two orders of effects—1st, a direct effect upon the points submitted to compression ; 2d, an indirect effect upon all the parts contained within the cranium.

From the circumstance of the case being so manifestly imperfect, it would seem indiscreet to venture upon any close parallelism between the symptoms and post-obit appearances, but it might not be *mal à propos* to cite the opinion of Cruveilhier, that "certain facts seem to lead to the conclusion that the softening which goes along with cancer may exist in a manner chronic."

The softened condition of the sphenoid bone seemed to indicate that the tumor situate upon it had taken an outward growth, or, in other words, had affected both the internal and external laminæ of the dural-matral membrane.

Old Dislocation of Femur on Dorsum of Ileum—No false joint.

Dr. FRANCIS presented the ileum and corresponding femur of a middle-aged woman, where dislocation of many years' standing had existed, but how brought about there was no means of learning, the patient being imbecile. It was certain, however, from collateral information from her friends that the dislocation had existed many years. That part of the head of the femur which rested on the ileum was flattened, but there was entire absence of any appearance of attempt at the formation of a false joint. A partial obliteration of the acetabulum threw further light upon the antiquity of the displacement.

Dr. Francis believed this to be the third case only on record where dislocation of many years' standing had existed without a more or less perfect false joint.

EPIDEMIC OF SMALL-POX AT HEIDELBERG.

IN an account of an epidemic of small-pox at Heidelberg, and of revaccinations which he practised there, Dr. Hœfle makes an assertion which is opposed to general experience. He asserts that he found the pustules of revaccination bear to those of primary vaccination just the same relation as those of a second attack of variola bear to those of a first attack. He states, moreover, that he observed this modification, although he never employed revaccine lymph, and though he always vaccinated directly from arm to arm.—*Dr. West's Report on Midwifery*, 1845-6.

Medical Trials and Inquests.

CHARGE OF CULPABLE HOMICIDE.

Effusion of Blood on the Brain—Whether arising from natural or violent causes—Conflicting medical evidence.

THOMAS GIBSON, of Cambusnethan, was accused of culpable homicide, by attacking and assaulting Charles Forrest, by seizing him by the breast and neckcloth, and throwing him forcibly to the ground, causing his head and other parts of his person to come violently to the ground, and forcibly twisting and tightening his neckcloth, and rendering him unable to breathe freely, by which the said Charles Forrest was mortally injured, and died on the morning of the following day. Pannel pleaded not guilty.

Daniel M'Laren deposed that he saw the man on the top of Forrest, holding him by the throat ; and he was lying back over some bunches of straw. He had a grip of the neckcloth as if he was choking him. It appeared to be a firm grip. Witness tried to haul the man back to ease Forrest, but he was not able. Forrest was not stirring, and seemed to be unable to stir. Witness seized the man by the throat, in the hope that it would make him give up his hold of Forrest. The man in return seized witness by the neckcloth, and would have overpowered him, had not his daughter seized him by the hair. Witness then tried to get a sight of the man's face, but he kicked with his feet to keep him off. By this time the two had fallen to the ground, the man being on the top of the deceased. When the deceased got clear of the man, he went back to the house, but he appeared very white and ill-looking, and there was a great change in his appearance. He asked for a drink of water, which was given him. He afterwards tried to vomit, but could not, and the whites of his eyes were turned up. He asked if there was any whisky left, and he got about half a glass, which was all that was in the bottle. He was sitting in a chair, and again tried to vomit, and occasionally moaned. He afterwards turned drowsy, but would not go to bed, as he said he would rather sit in a chair. Witness went to bed about five o'clock, and when he rose at seven, deceased was still sitting. He was holding his head with his two hands, and trying to vomit. Witness said, "You appear very bad," and he replied, "I never found the like of this." He afterwards added, "I do not think I will do good more." He was put to bed, after having been offered some tea, which he refused. When witness returned in the evening, the deceased had gone home, and the next thing he heard was that he was

dead. The prisoner was the man who ill-used Forrest. Witness had not tasted drink, and deceased had tasted very little. Other witnesses corroborated M'Claren's statement.

Andrew Selkirk, surgeon in Carlisle.—Was sent for to see Charles Forrest, on the 2d January, between 8 and 10. He was in a comatose state, and perfectly insensible. Took a little blood from him; it did not flow freely. Saw him again at 12 or half-past. He was still insensible. Never saw him alive again. The body was afterwards handed to witness and Dr. Grey, and they made a *post-mortem* examination and report. Witness read the report, which stated that there were no external marks of violence on the body, and the appearances internally were generally healthy. Both hemispheres of the brain, and some other parts of the body, were highly congested. The heart was nearly empty. There was no alcoholic odour from the stomach, and no external marks of strangulation. A bone was found growing into the brain. There were tubercles on the right lung. *Cross-examined*—The bone existed in the brain without having been produced by fracture.

Dr. Grey corroborated.

Dr. Sellar of Edinburgh—Had heard the evidence in this case from the beginning. Had heard the reports of the medical men who made the *post-mortem*, and looking to the facts stated there, there is no reason to doubt that death was caused by the effusion of blood on both hemispheres of the brain. The only probable cause of this effusion, looking to the man's age, was *external violence*. There is nothing inconsistent in the *post-mortem* appearance of the brain, with the supposition that he might have lived for years but for violence; but from the appearances of the lungs, the man might only have lived for one or two years. Has seen the piece of bone that grew in the brain, and sees no reason to think that this would be the cause of death in the absence of violence; the presence of that piece of bone certainly diminished the chance of a long life. If such a man as the deceased has been described to be was thrown with violence on the ground, and had his neck twisted, this might produce the effusion on the brain; and a man might live as long as Forrest lived after receiving the injury; but it is likely in this case that the effusion did not immediately follow the injury. The lapse of time between the injury and death did not render it improbable that it was the case. The fact that the man was able to speak and walk does not materially affect this probability; cases of this kind occur, but not often. Inclination to vomit is one of the symptoms of injury to the brain. Assuming the evidence of the witnesses to be correct, has no doubt this was the cause

of death. *Cross-examined*—Congestion of the brain may be produced by ordinary causes, such as exposure to heat, violent emotion of the mind, or exertion of the body.

Dr. A. D. MacLagan, Edinburgh—Had heard the evidence in this case. Looking to the *post-mortem* appearances, he would be disposed to connect the cause of death with external violence. The immediate cause of death was effusion on the surface of the brain. Suppose a man seized violently by the throat, the windpipe compressed, and thrown violently on the ground, this violence might certainly produce effusion on the surface of the brain. Looking to the *post-mortem* appearances, and hearing from the evidence the violence to which Forrest was subjected, he would have no doubt in attributing death to that cause. The lapse of twenty-six hours between the violence and death is not in the least inconsistent with the cause of death. If witnesses have spoken truth, it is impossible to disconnect the death with the violence.

Dr. Alexander King, of Glasgow—Is a lecturer in Glasgow on physiology and anatomy. Heard the evidence and medical report read. In his opinion *the man died of sanguineous apoplexy*. The symptoms are congestion of blood on the brain—the stage prior to effusion. I have no doubt (said the witness) that a quantity of blood was thrown out at or after the assault spoken to by the witnesses; but my own experience would not have anticipated such fatal results if the brain and its membranes had all been in a healthy state. *Cross-examined*—The bone might have lain dormant without causing any injurious consequences, but it would be much more likely to give rise to irritation and congestion. Nothing enables me to say from the report that such an alteration had taken place in the brain. Looking to the reports, there is nothing to cause the man to die at this time if he had not met with violence. If a man had congestion, the natural result would be to cause him to walk unsteadily.

This closed the case.

The Advocate-Depute then addressed the jury, and was followed by Mr. Aytoun, for the prisoner, at great length.

Lord Moncrieff summed up, after which the jury retired. On re-entering the Court, they returned a verdict, unanimously finding the prisoner *guilty of culpable homicide*, as libelled, but recommended him to the leniency of the Court, on account of the peculiar circumstances of the case. Sentence was delayed.

. The jury took a right view of the case. It is a remarkable circumstance that, according to medical evidence, sanguineous apoplexy from *natural* causes should come

on just at the very moment that sufficient violence is applied to the head and neck to account for the effusion of blood! Such an inference should be very cautiously drawn, or how is it possible that a man who has really caused the death of another by maltreatment can ever be convicted of the crime?

That singular coincidences do occur is proved by the following case now under investigation in this metropolis.

LAMBETH POLICE COURT.

Supposed Case of Homicide—Death from another cause.

ON the 1st instant, Henry Mills, who had been charged on a former day with having caused the death of Mr. Samuel Jones, an omnibus proprietor, again appeared before Mr. Norton for further examination.

The short facts of the case were these:—On Friday week, the deceased, who was a young man, and at the time in the most perfect health, had quarrelled with an omnibus conductor, and while both were struggling, the prisoner laid hold of the deceased, forced him into a passage, and threw him down. The deceased, in his fall, struck his head with considerable force against the top of a low partition, and upon getting up became very much excited, but soon changed to a death-like paleness. He, however, accompanied his omnibus to town, but on reaching Gracechurch Street, complained of a considerable giddiness in his head. He was taken home exceedingly ill, took to his bed, and kept it to the time of his death. His dissolution was attributed to a concussion or some injury of the brain, occasioned by the violence of the knock against the partition, but, from the evidence given before a coroner and jury, it seemed to have arisen from a far different and somewhat singular cause.

Inspector Campbell, who had caused the prisoner to be taken into custody, stated that on the preceding evening he attended at the inquest holden on the deceased, when, after a long investigation, a verdict of "Natural death" was returned.

Mr. Norton, recollecting the evidence given at the former examination of the prisoner, expressed some surprise at the verdict, particularly as the deceased had enjoyed, up to the time of the quarrel, the best possible health, and had expired so soon after; and questioned Mr. Campbell as to the nature of the evidence given before the coroner and jury. Mr. Campbell replied that the whole of the witnesses who had been examined before his worship had been examined at the inquest, and deposed to the same facts; but the jury, upon the testimony of the medical witnesses, which went to show that there were no injuries whatever

perceptible upon the head or brain, and that, therefore, the knock against the partition could have had nothing whatever to do with the death of the deceased, felt bound to return a verdict of "Natural death." The inspector here handed to Mr. Norton a written document which he had received from the coroner, and of which the following is a *verbatim* copy:—

"Medical opinion as to the cause of death upon post-mortem examination—After carefully examining the body, I am of opinion that death was caused by the formation of pus (the effect of inflammation) in the joint of the left great toe, and its subsequent absorption into the system, as evinced by the formation and infiltration of matter into the iliac and lumbar regions.—Verdict, Natural death.

"W. CARTER, Coroner."

Mr. Campbell went on to say, that the medical opinion just read was that of Mr. Wray, a surgeon, who had performed the *post-mortem* examination, and it was occurred in by three other medical gentlemen of high respectability who had attended the examination of the body. These gentlemen, as well as Mr. Wray, admitted that the case was the most extraordinary that had ever come under their notice. The deceased had never been heard to make the slightest complaint of the toe from which the matter had been emitted that caused his death, nor was there the least appearance of any external injury upon the toe itself.

Mr. Norton thought the case a very extraordinary one, and said he could not think of disposing of it until he heard the medical testimony.

EFFECTS OF ELECTRICITY IN OVERCOMING THE STUPOR PRODUCED BY THE INHALATION OF ETHER.

M. DUCLOS states that the phenomena produced by the vapour of ether on chickens and pigeons last from seven to eight minutes: but if these birds when thus under the influence of ether are submitted to the action of electricity by placing them on the isolating stool and allowing a current of positive electricity to pass into them, they recover from their insensibility in about thirty seconds. If they are placed on the electric conductor they are aroused in ten seconds, and if they are placed at the extremities of the conductors, and thus made to receive electric shocks, their vigour is instantly restored. When submitted to the action of the simple apparatus of Clarke, the electro-magnetic current is equally instantaneous in effecting their restoration. The influence of negative electricity instead of abridging the insensibility appears to prolong it.—*Comptes Rendus*, Feb. 1847.

Correspondence.

ON THE DOSING OF ETHER VAPOUR.

SIR,—Feeling desirous of seeing the inhalation of ether widely spread and firmly established, and that all doubt should be removed from the public mind as to its efficacy and safety in alleviating human suffering or misery, and, furthermore, that this gracious and merciful boon of heaven should be administered by the legitimate art of surgery or the science of chemistry, and not be allowed to pass into the hands of charlatans, by which the evil of ignorance and presumption will be increased a hundred-fold, the crime of manslaughter be of frequent or daily occurrence, and probably its perpetration changed into that of wilful murder;—to prevent such a calamity, and to reduce its exhibition to a certainty by fixed rules, I beg to suggest to the scientific and medical world that it should be administered in the same manner as the gases, by weight or measure; the latter form I think preferable for many reasons. The apparatus, which I would call the etherometer, must be small and portable, and can be easily constructed by any philosophical instrument-maker on the principle of the gasometer.

It must be obvious that by the use of this certain and simple plan the ethereal vapour may be safely administered to young or old, feeble or strong, and is well adapted to encounter peculiarities of constitution, and meet all emergencies, which are not unfrequent in medical and surgical practice.

Your obedient servant,

H. R. WILLIAMS, M.R.C.S.
Gloucester, April 6, 1847.

A NEW APPLICATION OF ETHER VAPOUR.

SIR,—I feel that the columns of the MEDICAL GAZETTE are not the most appropriate for the following communication, but they form the channel that most readily suggests itself to a member of the profession.

It occurred to me lately, that the vapour of sulphuric ether might be used, instead of fumes of sulphur, in taking honeycomb from bee-hives. By experiment, I find that a very small quantity induces the full narcotic effect of the drug on these insects; the insensibility continues for nearly an hour, and is followed by complete recovery.

The humanity as well as the economy of the plan will, I think, recommend it; various simple means may be adopted for the application of the vapour; a proper precaution would be to envelope the hive with an air-tight hood, formed of some such material as oiled silk; the fumigation need not last longer than five minutes.—I am, sir,

Your obedient servant,
M.D.

Selections from Journals.

ANIMAL CHEMISTRY.

CONDITION IN WHICH IRON EXISTS IN THE BLOOD. BY M. TADDEI.

THE opinion that it is impossible to obtain proof of the existence of iron in the blood by any of the ordinary chemical tests for this substance, and that, in order to procure this substance, it is necessary to calcine the blood, has led to the conclusion that iron exists in this fluid in a peculiar and unusual form of combination. Now, M. Taddei observes, if it be possible to procure iron from the blood by a simpler method than calcination, this view must cease to be tenable. He then proceeds to describe a process by which this may be effected. A solution of carbonate of soda is first to be mixed with a portion of blood; no decomposition will, in the opinion of M. Taddei, ensue from this addition, for the blood is naturally in an alkaline condition. If to the blood thus treated some neutral sulphate of oxide of copper be added, a precipitate, consisting of albumen, fibrine, and colouring matter, is speedily formed. From this precipitate a fluid gradually separates, which is at first transparent, but shortly becomes turbid, and then has formed upon it a whitish pellicle, which adheres to the sides of the vessel, and which, after remaining a while in contact with the air, gradually assumes a yellow and then a brown colour. On filtering off the fluid, and treating the precipitate with hydrochloric and sulphuric acids, the well-known blue colour is struck on the addition of ferrocyanide of potassium. The fluid itself also, before it loses its transparency, will, if similarly treated, yield equally striking proofs of the presence of iron. If all the copper be separated from the precipitate, the presence of iron in it may be proved by ammonia also. It appears therefore, that, by treating the blood with carbonate of soda, and with sulphate of copper, the existence of iron in this fluid is satisfactorily proved.

The author goes on to observe that he regards the iron to exist in the state of protoxide, and to be combined with some organic acid, or with animal matter, which in this case acts the part of an acid. With regard to the nature of this organic acid he offers no suggestion. He observes, however, that albuminous substances, when combined with alkalis, possess the power of dissolving not only iron, but also several other metallic oxides, such as the oxide of copper, &c. He inclines also to Liebig's view, that the iron which exists as protoxide in venous blood passes to a higher state of oxidation during the transit of this fluid through the lungs.—*Heller's Archiv.* vol. iii.

SURGERY.

EXTRAORDINARY CASE OF GUN-SHOT WOUND.

MR. WILLIAM COLLINS, of Kenton, having found this case among his papers, published it a short time since in the Provincial Medical and Surgical Journal.

Hull: December 30th, 1799.

I do hereby certify, that I first visited Lieutenant Wynn on 2d December, who was considered as a dying man by all the physicians and surgeons of this place who had seen him, and it was only in consequence of his being in the 17th Regiment, many of the officers of which I had known very intimately while in St. Domingo, that I was induced to visit him, rather from motives of politeness than the hope of being serviceable to him. I found him in the most deplorable state of debility and emaciation, coughing up at least a pint of purulent matter daily from his lungs, attended by violent hectic fever and other symptoms, which but too clearly denoted his approaching dissolution. All these symptoms appeared evidently to me to be the consequence of a wound in his side, received as he informed me, on the 2d of October, in Holland. After examining the wound, which externally was now nearly healed up, I judged it proper to lay it open, thus endeavouring to trace the progress of the ball, but without effect. A few days after I made another incision into his side, but I was still unsuccessful in my attempts to detect the cause of so much mischief. On the 11th, however, the matter which passing through his lungs had ceased to flow out at the external wound, now made its appearance there, and a probe being introduced at the orifice from whence it flowed, a ball was discovered at the depth of several inches. On the 12th I proceeded to extract the ball. After making a large and deep incision into the cavity of the chest, I found the ball much too large to pass between the interstices of the ribs. Two of the ribs had evidently been fractured by the ball in its passage into the lungs, but were now healed. Besides, it is easy to imagine that the force of gunpowder will put in what mere manual force cannot take out. I was thus under the necessity of sawing away a large portion of the rib, to make room for the passage of the ball, which being composed of iron rendered the operation much more tedious, from its very frequently eluding the grasp of the extracting instrument. After much practice during the present war, in gun-shot wounds, I can without hesitation, pronounce Mr. Wynn's case to be one of the most important I have ever had under my care, and the operation the most difficult I ever performed; which, but for the unshaken fortitude of the unfortunate

sufferer, could not have been effected. Those who know the high importance of the lungs to animal life, and are capable of appreciating the great injury they must have sustained by the lodgment of so large a substance, so deeply seated, and for such a length of time, will be more capable of conceiving than I of describing the acute sufferings, both of mind and body, which Mr. Wynn has undergone. As Mr. Wynn has frequently asked me my real opinion of his actual situation, and as he has appeared to me to possess a firm mind, capable of hearing truth, I have not attempted to conceal from him that, though he is now much better, and I fervently hope, likely to recover, yet he is still, and must for a considerable time be, in a dangerous and precarious state.

T. HUNTER, M.D.

Surgeon to the Forces.

The grape shot extracted from Lieutenant Wynn's lungs weighs three ounces and a half and three grains. It was weighed in the presence of Lieutenant-Colonel Locke, of the 5th West York.

The only further particulars of Mr. Wynn's case are given in Mr. Collins's expression of a belief that he lived for some years after; and in an accompanying letter from himself, dated 27th February, 1800, wherein he mentions being lately appointed Captain Lieutenant of the 23d regiment; and says, "my lungs are almost well, but the hole in my side is necessarily kept open, on account of some small pieces of bone, which occasionally separate from one of my ribs. I am too weak to bear the fatigue of travelling, and therefore mean to proceed to London by sea."—*Abridged from the Provincial Medical and Surgical Journal.*

PATHOLOGY.

DIAGNOSIS OF CANCEROUS GROWTHS IN THE LIVING SUBJECT.

THE local symptoms and general signs of cancer have frequently been found to be insufficient for the purposes of diagnosis, such as the lancinating pains, unequal surface, hardness, elastic feel, softening, ulceration, the surrounding tissue being affected, a general alteration of the constitution, and a tendency to return after excision. All these symptoms have, at various times, been proved to be connected with epidermic, fibrous, fatty, or cystic growths. In the living subject it is clear that the anatomical arrangement of the fibrous and cellular elements, observed in morbid specimens, can seldom be seen. We have no opportunity of obtaining a section. Still there are certain places where the detection of such cells as have been described, exhibiting their peculiar change under the action of acetic acid, will enable us to diagnose a malignant

growth with certainty. Over most of the surface generally, for instance, where the diagnosis most concerns the surgeon, a group of such cells cannot leave us in doubt, because the epidermic scales in such cases never resemble them, as they do in internal organs, as the bladder, stomach, or brain. Thus, although anatomically, and in all cases, we cannot depend upon the form or even structure of the cell, as connected with the epidermis alone we can. Hence, to the surgeon, a minute examination is a more precious means of diagnosis than to the physician. Various ulcerated and fungoid tumors of the surface may be diagnosed with certainty, from an examination of the cells alone, whilst in fluids discharged from the stomach, bowels, or bladder, this means of diagnosis is not so certain. Many instances are now on record, where in doubtful cases such an examination has determined the nature of the growth. Several have been lately published by M. Sedillot of Strasbourg, and others may be found in the works of Lebert and Vogel. There can be no doubt that many tumors and ulcerations exist which, to the naked eye, and according to the ordinary symptoms, resemble cancer, although they are perfectly innocent. To all such growths Lebert has given the name of *cancroid*. Among them may be placed many so called cancers of the lip, which, on examination, are often found to be fibro-epidermic; many tumors of the breast, which are either fibrous, fibro-epidermic, or cysto-sarcomatous; fungoid swellings of the dura mater; the ordinary fungus of the testicle, which Messrs. Goodsir and Syme have shewn to consist of healthy granulations; and probably the so-called chimney-sweep's cancer of the scrotum. Several instances were referred to, published in the writings of Lebert, Vogel, Syme, and Sedillot.

There were some cases, no doubt, where, after every means of research had been employed, doubt as to the nature of the growth would still exist. All those who contend for the exclusive advantage of any one sign or symptom, must have very limited notions of disease or diagnosis. No one could repudiate the use of the microscope more than the author was disposed to do, as a sole means of diagnosis in any case. But he contended that this instrument, judiciously employed, is likely to be as useful in the hands of the surgeon, for the diagnosis of cancerous and *cancroid* growths, as the stethoscope is in the hands of the physician for the diagnosis of diseases of the chest. Neither instrument should be alone depended on, but, conjoined with the history and other symptoms, will lead in many cases to more correct conclusions than it is possible to arrive at by means of the unaided senses. Dr. Bennett cited a few in-

stances which had come under his own observation, confirmatory of this statement, and alluded to others brought forward by the writers formerly mentioned. A few dozen cases, however, could not be considered a sufficient basis for this important inquiry. He believed that the whole subject was yet to be worked out, and considered it above all things desirable, that some young surgeon would dedicate his time and energies to the task. No doubt it was troublesome to be under the necessity of entering into new researches on points which many consider already determined, and where such decided opinions respecting them had been so long held by practitioners. Such, however, were the sacrifices which the progress of medical science required. In the meanwhile Dr. Bennett invited surgeons to forward him specimens of morbid growths in a fresh state, or to enable him to examine the ulcers or discharges from malignant and doubtful growths or ulcers. He would make notes of the result, and these, with a short history of the case, might form the ground-work of a more extended series of researches, which would no doubt, before long, lead to some positive result.—*Dr. J. H. Bennett's Observations on Cancer.*

Medical Intelligence.

UNIVERSITY OF CAMBRIDGE.

THE Vice-Chancellor has given notice that at the next Congregation the following *græce* will be offered to the Senate:—

That candidates for the degree of M.B. be allowed to offer themselves for the examination by the Professors of Chymistry and Botany after the expiration of three years from their admission.

By a regulation at present in force, and confirmed by grace of the Senate, February 27, 1829, candidates are allowed to offer themselves for examination at any time during their fifth year from admission, but not earlier.

ROYAL MATERNITY CHARITY.

THE 90th anniversary festival of this charity was held on Thursday, at the London Tavern. The chair was filled by Sir G. Larpeat, Bart. On proposing the toast of the evening, the chairman stated that the relief afforded by the Charity had increased from the number of 35 in the first year of its existence to 3,100 poor women, assisted at their own houses during the most interesting period of their lives. Within the last 90 years the benefits of the charity had been received by more than 36,000 persons, and

its operation had principally been confined to the more destitute localities of the metropolis. From the report it appeared that the subscriptions during the past year had greatly fallen off, and that there had been a serious deficiency in the funds, but we are glad to hear that extensive alterations have in consequence been effected in the constitution of the charity, and that it is now placed in a state of greater efficiency than ever. The subscriptions announced amounted to £500.

ST. GEORGE'S SCHOOL OF MEDICINE,
1, GROSVENOR PLACE.

On Saturday, May 1st, the students of the past session who had distinguished themselves in competition received the medals, prizes, and certificates of honour. Sir J. CLARK, Bart. F.R.S. presided.

A report was read by the Honorary Secretary, Dr. W. V. Pettigrew, giving a slight sketch of the history of the School from its foundation in 1830 by Dr. Wilson and Mr. Lane. Tablets have been at this School placed up in the theatre, upon which are to be inscribed the names of all students who have hitherto gained prizes, and a blank tablet left for the conference of the same honours upon the future prizemen. Much excitement prevailed in awarding the prizes and certificates, as the name of the candidate was unknown until the sealed envelope was at the meeting broken, either to lecturer or student. The utmost unanimity prevailed, the students warmly applauding their more fortunate competitors; and it was with no little pleasure we observed the kind feeling of attachment that existed between the lecturers and pupils.

A letter was read from Dr. J. A. Wilson, wishing for the continual prosperity of the School, which he as junior physician had founded, and the warmest applause greeted the continuance of this paragraph, which was the assurance that now as senior physician he would never desert the School. In the letter Dr. Wilson also thanked the lecturers for establishing two clinical prizes open for competition to all the students of St. George's Hospital.

LONDON UNIVERSITY COLLEGE.

THE distribution of prizes in the medical department of this University took place on the 1st inst., and on the occasion the hall was filled with the students and their friends. Lord Brougham, as President of the University, occupied the chair, and the proceedings opened with the reading of the annual report by Mr. Liston, Dean of the Faculty of Medicine. From that document it appeared that the number of medical students who attended classes during the past year was 290, the number of the preceding year

being 292. Their general conduct and attention were spoken of in the most favourable terms, and it was stated that several of them who had taken part in other academical competitions had gained a fair share of distinction.

The report further announced the retirement of Dr. Taylor from the professorship of clinical medicine; the appointment of two assistant-physicians and one additional assistant-surgeon to the hospital from the alumni of the college; and the extension of the accommodation afforded in the hospital by the erection of a new wing to the building. The report concluded by a reference to the success of Mr. Benjamin Hobson, M.B. as a religious and medical missionary in China, and his efforts to establish a College at Hong Kong for the instruction of Chinese pupils in medicine and the physical sciences.

ROYAL COLLEGE OF CHEMISTRY.

On Tuesday last His Royal Highness Prince Albert, accompanied by many noblemen and gentlemen, visited this College. His Royal Highness, attended by Professor Hoffman, proceeded at once to the laboratory, and inspected this and the other buildings which are now completed. The visit to the laboratory was made while the students were at work, and the Prince appeared to take great interest in the various chemical processes which were being conducted by the students. The nature of these was fully explained to him by Dr. Hoffman.

His Royal Highness afterwards presided at a meeting of Council, at which a report was read on the completion of the laboratory, &c. The Institution is now stated to be in efficient working order. To the laboratory is attached a library and a theatre, in which chemical demonstrations are given by Dr. Hoffmann. Among those present on this occasion were the Marquis of Northampton, Lords Fitzwilliam, Ducie, Ebrington, Newry and Morne, Sir James Clark, Mr. Blake-more, Mr. B. B. Cabbell, and numerous other friends of the Institution.

MIDDLESEX HOSPITAL.

At a meeting of the Governors of this Hospital, on Wednesday the 28th ult., Sir R. H. Inglis in the chair; the following resolutions were proposed and carried, subject to confirmation at another meeting upon the special requisition of a certain number of governors.

"That it is indispensable that the office of house-steward and secretary should be divided, and that for the vigilant and punctual administration of the business of the hospital, for the maintenance of order throughout the establishment, for the perfect superintendence of all the persons em-

ployed, and of the effects of the hospital, and to insure the greatest economy of labour and expenditure, an active and intelligent house-steward should be immediately appointed to reside in the house, and who will devote himself early and late to the general good government of the hospital; also, that the secretary to the hospital should no longer reside in the house, and that his duties for the future be confined to the business originating with the board, to the proper keeping of the accounts, and to the anniversary, and other duties incidental to the office of secretary."

The second resolution was proposed by the Hon. Capt. Maude. It was founded on the following extract from the report of the committee:—

"And, lastly, your committee have the painful duty to report, that, after mature and anxious consideration of the subject, it is in their opinion essential to the welfare of the patients in the hospital, to that harmonious action amongst the medical officers by which alone their duties can be most efficiently discharged, and to the restoration of the schools of medicine and surgery attached to the hospital, that Mr. Tuson, one of the surgeons, should resign his appointment."

After a very long debate the resolution was ultimately carried by a majority of 51 to 33 votes.

Another meeting of Governors took place on Thursday, May 6th, at 12 o'clock, to confirm these resolutions. Sir Robert Inglis again took the chair, and His Royal Highness the Duke of Cambridge, and many other influential governors were present.

Mr. Hawes stated that the Committee had willingly adopted a few unimportant alterations suggested by Mr. Bailey, namely, that the Board should be limited to twenty-four instead of eighteen governors, of which number one-third should go out annually, not to be eligible for re-election for twelve months. Sir Thomas Acland and Mr. Dodsworth declared their intention of not interfering with the harmony which appeared to prevail, although they would have preferred the original resolution. The resolutions, with this amendment, were confirmed unanimously.

His Royal Highness the Duke of Cambridge congratulated the governors on the prospect which now existed of placing the hospital in its proper position, and expressed his confidence that in a short time it would be in a state to bear comparison with any hospital in London. A list of the new weekly Board to be proposed to the Court in July was read to the meeting. Thanks were voted by acclamation to Sir R. Inglis, who, in acknowledging the compliment, declared his full concurrence in the measures adopted.

FEVER IN LIVERPOOL.

WE regret to state that there has been an alarming increase of fever and mortality in Liverpool during the last week, and that the disorder is not by any means confined to the lower classes. Two Roman Catholic clergymen have fallen victims to the pestilence. In addition to the deaths of Mr. Parker and Dr. Kelly, we have to report that Inspector Forsyth, one of the recently-appointed relieving-officers, after an illness of eight days, died on Friday morning. Mr. Gray, one of the overseers, is seriously indisposed. The same may be said of Mr. Staine and Mr. Lamonby, two of the relieving-officers, and also for three of the medical gentlemen connected with the parish, namely, Mr. Steele (only a few days appointed to the office), Dr. Robert Gee, and Mr. Grimdale, surgeon to the workhouse. Three of the policemen employed as district relieving-officers have become afflicted with typhus; and an able-bodied pauper from the workhouse, who was employed as an assistant at the new parish-offices in St. Anne Street, caught the same malignant disease at those offices, and is dead.*

A SIMPLE REMEDY FOR CRAMPS IN THE LOWER EXTREMITIES.

BY DR. S. A. BARDSLEY, MANCHESTER.

HAVING myself been for many years a martyr almost every night to this torturing malady, and having tried in vain many of the "thousand and one" remedies usually prescribed for relief, I was at length led to reflect upon a fact which had hitherto escaped my attention, viz. while sleeping in a chair, with my lower limbs, if not touching the floor, yet so depending as to form an inclined plane with the whole of my frame, that I was in this position never disturbed by cramps; and upon inquiry I found other sufferers from habitual cramps were under the same predicament. These facts, in connection with some physiological considerations, induced me to put into practice the following plan, which has proved decidedly successful. My plan is to sleep upon an inclined plane, which is effected by taking care that the bed or mattress should incline twelve inches from the upper to the lower part of the bed; and for this purpose the lower feet were cut down so as to form this inclination. I will now state two facts, which are sufficient tests that neither the imagination nor intemperate diet were the causes of my habitual cramps. 1st. That after my trial of the inclined plane for seven consecutive nights with complete

* An important order has just been issued by the Government, that all deck passengers arriving in Liverpool from Ireland shall be examined, and those labouring under disease are to be removed to lazarettos.

success, the housemaid, unknown to me, had raised my bed to its usual horizontal level, and, unconscious of the change, I went to sleep, when shortly afterwards the cramps were so severe as to compel me twice to alarm the family by my cries and moans; and it was not until I arose in the morning that I discovered the change in the form of my bed. 2d. The other test is the one which I made six weeks ago. After very spare diet of twenty-four hours, I replaced my bed from the inclined to an horizontal position, when shortly after I awoke with dreadful cramps—so violent in the muscles of the thigh and legs as to require two persons to hold the limbs down in order to apply friction, with stimulants, both external and internal; indeed, the paroxysm was so severe and continued as to be accompanied with sickness and faintness. I deem it necessary to give a caution to sufferers from cramps, that the disorder is almost always connected with a weak or imperfect state of the digestive organs, and therefore, although the method now stated for relief will allow the sufferer several luxuries hitherto forbidden, yet there must be limits placed to such indulgences if he expects to pass the nights entirely free from his malady.

POISONING BY MISTAKE.

MADAME GRAVIER, æt. 53, has just lost her life under the following singular circumstances. In order to relieve some cutaneous affection, she had been taking the Enghien mineral water internally, and employing sulphur-baths. An apothecary, following as he considered the prescription of a physician—"A bath of artificial Baresges (sulphureous) water weekly"—sent with the Enghien water a solution of liver of sulphur (sulphuret of potassium). These preparations were placed in bottles of very similar shape and size, and labelled. The patient having taken the Enghien water, had a sulphur-bath as usual at the public baths; and on the morning of the 19th of April she swallowed two-thirds of a glass of the concentrated solution of the sulphuret of potassium. She died after three hours of severe suffering.—*Union Médicale*.

CHARGE AGAINST AN ENGLISH PHYSICIAN AT NICE.

THE *Union Médicale* contains the following extraordinary story. It is intended to be a tale of horror, but it fails of its effect from obvious exaggeration. A beautiful young English lady, residing at Nice, was about to be married to an Englishman of distinction. Finding herself slightly indisposed, she requested her English physician to give her a composing draught. This gentleman, it is alleged, gave her a draught containing eight drops of prussic acid, and one grain of acetate of morphia. The most dreadful

nausea and sickness followed; nevertheless the physician insisted upon giving two similar doses to the patient, from the effects of which she expired.

A report having been circulated that the deceased had been poisoned, the physician proceeded to open the body of his young victim; although her pulse had only ceased to beat for *six hours*. The blood issued in jets on making an incision into the body:—the young woman was not dead, but had fallen into a lethargy. Nevertheless the physician proceeded with his inspection. Naturally enough the indignation of the inhabitants of Nice was excited to the highest pitch. The physician was arrested but subsequently liberated, and he left the place. The people placarded his door and attempted to demolish his house.

. There is only one piece of consolation in the whole of this report; namely, that in the opinion of the writer it requires *confirmation*. We quite agree with him: and we may take this opportunity of remarking, that no man can be more unfortunately situated than an English physician practising on the continent. Should an adverse case occur in his practice, he is almost certain of undergoing a malignant persecution, and is commonly compelled to quit the town. We must confess our surprise that in addition to the charge of coolly poisoning his patient by forced doses of two powerful poisons, and afterwards dissecting her alive, the physician was not in this instance accused of having cooked and eaten part of his patient's body!

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted Members on Friday, April 30, 1847.—J. H. Walker—T. S. Tearne—J. W. Williams—W. H. Cooke—W. Johnson—J. L. Green—R. S. J. Stevens—A. Adney—M. M'Donnell—H. J. Barrett.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examinations and received certificates to practise on the 29th ult.:—John Robert Humphreys, Shrewsbury—Richard Eliot West, Camelford, Cornwall—George Goforth Wyer, Swayfield, Lincoln.—John Sebastian Helmsken—Richard Thomas Smith, London—Thomas Stillman, Steeple Ashton, Wilts.—Henry Fisher, Devonshire.

OBITUARY.

JOHN RAMSBOTHAM, M.D.

On the 4th inst., at Tottenham, John Ramsbotham, M.D., formerly of Broad Street Buildings, in the 80th year of his age.

DR. KERRISON.

On the 28th ult., in his 72d year, Robert Masters Kerrison, M.D. F.R.S., at his residence, No. 35, Upper Brook Street.

THE LATE RICHARD CASSON, ESQ.

THE medical profession has recently lost one of its gifted members, the late Richard Casson, Esq., of Gracechurch Street, but formerly of Hull. He died on the 2d of April, in his 56th year, and he has left, besides his bereaved widow and family, a large circle of friends to lament his loss. He was a man of clear and sound intellect, and was devoted to the acquisition of knowledge, although so much and so constantly engaged; but he paid especial attention to every department of practical science essential to his professional pursuits. Although he occasionally published cases, yet he avoided anything like obtruding his opinions, and he often regretted that he could not find time to arrange some of his experiences in medicine, &c.; yet he must have had a vast mass of materials and original observations, worthy of himself and of his fellow-labourers, in the treatment of disease. If there was one department more than another in which this would have been the case, it was in the treatment of the insane. With the late Dr. Alderson he founded the East Riding Lunatic Asylum, to which he devoted much of leisure time, never omitting for many years visiting it daily. His benevolent treatment of the patients won their esteem and respect. His eldest son, Mr. F. W. Casson, surgeon, is the resident medical superintendent of the East Riding Lunatic Asylum, and his successor.

MR. JOHN READ.

ON the 3d inst. in his 87th year, Mr. John Read, inventor of the stomach-pump and other mechanical apparatus used in medicine and agriculture.

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, April 24.

BIRTHS.	DEATHS.	Ar. of 5 Spr.
Males.... 718	Males.... 502	Males.... 468
Females.. 699	Females.. 479	Females.. 446
1417	981	914

DEATHS IN DIFFERENT DISTRICTS.

(34 in number;—Registrars' Districts, 129.
Population, in 1841, 1,915,104.)

WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James... (Pop. 301,326)	135
NORTH—St. Marylebone; St. Pancras; Islington; Hackney... (Pop. 366,303)	183
CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London... (Pop. 374,359)	179
EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar... (Pop. 393,247)	220
SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich... (Pop. 479,469)	264
Total	981

CAUSES OF DEATH.

ALL CAUSES	981	914
SPECIFIED CAUSES	978	909
1. Zymotic (or Epidemic, Endemic, Contagious) Diseases ..	145	166
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	89	99
3. Brain, Spinal Marrow, Nerves, and Senses	166	138
4. Lungs and other Organs of Respiration	334	275
5. Heart and Bloodvessels	38	29
6. Stomach, Liver, and other Organs of Digestion	84	70
7. Diseases of the Kidneys, &c. ...	9	3
8. Childbirth, Diseases of the Uterus, &c.	16	10
9. Rheumatism, Diseases of the Bones, Joints, &c.	15	8
10. Skin, Cellular Tissue, &c.	8	2
11. Old Age	57	27
12. Violence, Privation, Cold, and Intemperance	17	28

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	13	Convulsions	38
Measles	7	Bronchitis	70
Scarlatina	11	Pneumonia	67
Hoop-cough	31	Phthisis	141
Typhus	41	Dis. of Lungs, &c. ...	14
Dropsy	19	Teething	5
Sudden death ..	12	Dis. Stomach, &c. ...	7
Hydrocephalus ..	29	Dis. of Liver, &c. ...	18
Apoplexy	28	Childbirth	12
Paralysis	33	Dis. of Uterus, &c. ...	3

REMARKS.—The total number of deaths was 67 above the spring average. The deaths from pulmonary diseases (especially bronchitis) are very numerous and much above the weekly average. Typhus fever has also assumed an increased fatality.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer	29.81
" " Thermometer	45.5
Self-registering do. max. 67° min. 19°	
" in the Thames water — 49° — 45.8	

a From 12 observations daily. b Sun.

RAIN, in inches, 0.0: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 4.4° below the monthly average.

NOTICES TO CORRESPONDENTS.

Dr. Fisher's case of Poisoning with Cantharides will appear in the following number.

Dr. Warren's pamphlet on the Inhalation of Ether has been received.

Dr. G. A. Rees's letter next week.

The Hunterian Oration, on the Application of the Inductive Philosophy to Medicine, by Dr. G. H. Barlow, will be inserted in our next number.

Mr. Jackson's communication, which is in type, has been unavoidably postponed.

We share in the indignation of "A Constant Reader," but we fear there is no remedy for the evil. It is an advertisement in another form.

We shall be glad to receive Dr. Haworth's paper.

Received.—Mr. Hooper—Dr. Everett—Dr. J. W. Griffith—Dr. T. H. Barker—Mr. H. Norman—Mr. Gardner.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 and 1847,

By BRANSBY B. COOPER, F.R.S.

Surgeon, and Lecturer on Surgery at Guy's Hospital.

LECTURE I.

Reason for choice of Blood as commencement of a surgical course—importance of the blood—a living fluid—question as to the propriety of transfusion of blood—comparative size of red and colourless blood-corpuscles—necessity for replenishment of blood—ingesta—albumen and fibrin—hydro-carbons. Quantity of blood in the human body—effects from loss of blood—greater from arterial than venous—syncope not always to be feared—colour of arterial and venous blood. Time required for the whole quantity of the blood to pass through the heart—arteries—capillaries—veins. Conditions of healthy blood—specific gravity—red particles—liquor sanguinis—coagulation influenced by heat—proximate elements—red particles—fibrin—albumen—salts—water—buffy coat.

IN pursuance of the plan which I propose to follow in these lectures I shall commence with some observations upon the Blood. To some of my audience it may appear singular, or even misplaced, that I should have made choice of the blood as the first subject for a surgical course of lectures; but when I have explained to you the various important purposes this fluid is destined to fulfil, during the progress of the growth of the body, for the maintenance of its health, and its restoration from disease, you will all, I think, readily admit the necessity of understanding the normal state of the blood, that you may appreciate the changes to which it is liable under the influence of various morbid conditions.

I do not intend to enter deeply either into the chemistry or the physiology of the blood, but merely to bring to your notice such points on the subject as have reference to practical considerations. It is worthy of remark, that in the earliest times the blood was considered a highly important and a vital fluid, for in the book of Leviticus we find it written, that "The life of the flesh is in the blood; the blood is the life of all flesh, the blood of it is for the life." John Hunter, the prophet of surgery, seems to have been impressed with this conviction, and always spoke of the blood as a "living fluid."

XXXIX.—1015. May 14, 1847.

In evidence of the great importance of the blood in the animal economy, I may justly draw your attention to the fact, that such is the affinity and mutual dependence which exists between the blood-vessels and tissues of the body of an animal, that the blood of no other individual, even of the same species, can be substituted for it without great hazard, while that of any other kind proves rapidly destructive to life. The many unsuccessful cases of transfusion of blood which have been recorded, bear evidence to the insufficiency of such attempts, and perhaps render questionable the propriety of renewing such experiments. That the blood of one class of animal is not to be substituted for that of another by transfusion, may be accounted for by the fact that the red particles differ in size and shape in the blood of different animals: for instance, the blood of a reptile cannot maintain the life of a warm-blooded animal, the red particles of the former being of an elliptical shape, while those of the latter are circular. Even in the mammalia there is a great variety in the size of the red globules. Those of man are $\frac{1}{1000}$ of an inch in diameter, those of the dog tribe are about $\frac{1}{1500}$, those of the ass $\frac{1}{2000}$, of the bull tribe $\frac{1}{1200}$, and of the sheep less than $\frac{1}{3000}$ of an inch in diameter. A further proof of the important part the blood performs in maintaining the health of the animal is evinced by the rapid dissolution which follows the loss of a comparatively small quantity of this fluid; and even its admixture with any foreign matter, as by the absorption of pus, which sometimes occurs in phlebitis, or its deterioration from the influence of miasma, will so destroy the integrity of blood as to place life in jeopardy.

These facts, I trust, will be deemed a sufficient reason for my commencing these lectures with a short description of the blood, as they have led you to consider that every constituent in the body is formed, maintained, and repaired by its supply; and that it is capable of adapting itself to the various contingencies which arise out of the diseases and accidents of the different tissues.

As the increase of the body, the development of its organs, and the supply of its waste, depend entirely on the blood, the quantity of this fluid must necessarily be constantly becoming diminished, and requiring therefore replenishment. This is accomplished by the admission of those substances into the stomach which are capable of being converted into blood; but whatever variety of food may be employed those only can nourish the blood, and consequently the body, which contain the two animal constituents termed fibrin and albumen: these contain nitrogen, and enter into the composition of both animal and vegeta-

ble substances. It is true other elements enter into the composition of the various ingesta employed for the food of animals; such as starch, gum, sugar, fat, &c. None of these contain nitrogen; they are termed therefore hydro-carbons; and, although not competent to the nourishment of the body, perform the very important office of maintaining the animal heat, and are therefore most essential to the preservation of health. Hence it is that in cold climates we find the inhabitants require large quantities of oil, fatty substances, and alcohol, to supply the heat which is constantly being abstracted from the surface of the body.

When we consider the great use of the blood, a natural desire must arise to learn the quantity of this fluid which is contained within the human body; but this is most difficult to ascertain correctly. Various methods have been adopted to solve this question; such as bleeding an animal to death from the aorta, chopping an animal to pieces, and squeezing out the blood: but such experiments have produced only uncertain results. Valentin, however, adopted a much more ingenious and scientific experiment. He withdrew an ounce of blood and substituted for it an ounce of a solution of a salt of known strength; after a certain time, he drew off another ounce of blood, and ascertaining the quantity of salt contained in it, he determined the quantity of blood within the animal. Although this experiment is not free from objections, still it seems to be one of the best which has been adopted for the purpose. From it he has deduced, that a man of thirty years of age contains about thirty-four pounds of blood, and a woman of the same age about twenty-six pounds. There is, however, much reason to believe that Valentin has overstated the real quantity of blood at any one time flowing through the vessels of a human being; and this suspicion is strengthened by the fact of the danger resulting from the loss of only a small proportion of the mass he conceives to be always circulating.

The abstraction of twenty ounces produces a very great effect upon the constitution, although the danger arising from this source is not wholly attributable to the quantity lost, but partly to the velocity with which the blood flows. The loss of arterial blood is more dangerous in its effects than the abstraction of blood from the veins: this results principally from the greater quantity of nutritious matter withdrawn, but in some measure also from the rapidity with which it flows. Such facts as I have now mentioned should be constantly borne in mind in the regulation of your practice on the abstraction of blood as an antiphlogistic remedy. Cases are recorded in which seventy ounces of blood have been

withdrawn at one bleeding, but fortunately for mankind, physiology is now considered an essential branch of medical education, and much less hazardous means are employed to produce the intended effects. When a large quantity of blood has been lost, a quantity beyond which dangerous results would arise, syncope very generally ensues, a state in which the blood ceases to be propelled through the smaller vessels, and in which there exists a tendency to its coagulation, with a consequent closing of the wounded vessels. A judicious surgeon therefore hesitates before he interferes with this natural attempt to check bleeding; but at the same time it is to be borne in mind that the syncope may remain to so lengthened a period as to render it advisable to produce reaction by the administration of stimuli, especially when a very large quantity of blood has been lost before syncope occurred.

The colour of the blood, as all of you must be aware, differs in the arteries and in the veins, that in the former system of vessels being of a bright scarlet, and that in the latter of a dark modena red, although the size and form of the red particles are the same in each. This physical characteristic of the two kinds of blood is often a sign of great importance to the surgeon in cases of bleeding, especially during surgical operation; but he should be aware that it is not an invariable evidence of the source from which blood is flowing: for under certain circumstances, when, for instance, the blood is retarded in its passage through arteries, it will assume a venous hue, and so also in certain diseases venous will acquire the colour of arterial blood, indications which, when appreciated, regulate the practice to be adopted in each instance. It would, for example, be difficult to decide at once whether the blood in this saucer be arterial or venous, for it has so long been exposed to the atmosphere that it has absorbed a sufficient quantity of oxygen to have acquired a scarlet colour, and here is a demonstration therefore of the difficulty I have alluded to.

The passage of the blood through the heart and blood-vessels is termed its circulation; and as each ventricle, according to Valentin, holds, when distended, between four and five ounces of blood, we may calculate, if we take the average quantity of blood in an adult to be 30lbs., and the number of the heart's pulsations in a minute to be 75, and assuming the capacity of the left ventricle at four ounces,—we may calculate, I say, that the whole quantity of the blood in the body passes through the heart in less than two minutes: this fact of the great rapidity of the circulation is corroborated by Hering's experiments, who found

prussiate of potash in the saphena vein of a horse in twenty seconds after he had injected it into the jugular vein, and within thirty seconds it was found in the other jugular. Müller's calculation differs from Valentin's, and I should think Müller's the more correct. He considers that 2 oz. of blood are expelled from the left ventricle at each systole, and 25lbs. is his highest calculation of blood in the body, so that at 75 pulsations in a minute it would require $2\frac{3}{4}$ minutes for the whole of the blood to pass through the heart.

Many circumstances affect the blood during its circulation through its proper vessels, and may tend to alter the relative proportion of its constituents, and thus exert a most powerful influence in modifying and aggravating disease. The blood passes from the heart into the arteries; these are destined to convey it to their terminating branches, the capillaries, which appropriate its constituents to the supply of every structure in the living body: for this function to be healthily and properly performed the integrity of the blood must be implied, the action of the arteries and capillaries be normal, and the tissues healthy, to enable them to receive their due supply of nourishment. The whole system is otherwise put out of order. As all the blood contained within the capillaries is not expended in the supply of the tissues of the body, it is returned as deteriorated blood by the veins (assisted by the absorbents) to the right side of the heart, receiving in its reflux course a fresh supply of nutrient ingredients resulting from the digestion of food, and subsequently throwing off its effete matter through the action of various organs destined for this excretory office, it ultimately receives a fresh supply of oxygen from the lungs, when it may be said to be renovated, and fitted again for circulation.

Thus we are bound to consider the human body not as an inanimate but as a vital mass, not in a state of rest but in constant action, and we can but consider the blood from the first formation of the embryo to the period of senescence as the great principle of life.

Wonderful and important as are the functions of the nervous system, it is by the blood it is supported, and without the influence of the blood it is at once incapable of directing motion and receiving sensation. This immediate effect, produced on the nervous system by cutting off the supply of blood to the brain, was first demon-

strated by Sir Astley Cooper, who by compressing the carotid and vertebral arteries of an animal, deprived it of life in two minutes. The rapid dissolution so frequently resulting from hæmorrhage is but another illustration of the same fact.

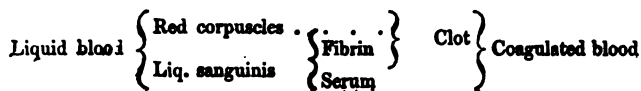
The blood is not only important under the view which we have taken of it in health, but equally so in disease; for we find that it undergoes either as cause or consequence appreciable changes both as to quantity and quality, and in order to understand these morbid conditions it is quite necessary you should be acquainted with the nature of this fluid in a state of health.

Condition of healthy blood.—The specific gravity of healthy blood varies from 1.050 to 1.070, its temperature varying from 98° to 100° ; facts not unimportant, as they alone may tend, under certain circumstances, to assist you in the diagnosis and treatment of disease.

The blood appears homogeneous while circulating in its vessels, or even immediately on its being withdrawn from them, but if examined soon afterwards under a microscope, it is seen to be composed of numerous little red disc-shaped corpuscles, floating in a colourless fluid, "the red particles" and "liquor sanguinis," the latter term having been first applied to this fluid by my colleague Dr. Babington, to distinguish it from the serum, which is the fluid part of the blood after the fibrin has been spontaneously separated from it by its coagulation.

A short time after blood has been withdrawn from a living animal, it begins to gelatinize or coagulate, the period of its consolidation depending, however, on the temperature of the medium to which it is exposed: this fact may be a consideration of importance to a surgeon, as suggesting the propriety of regulating the temperature of a room during surgical operations, for it has been ascertained that blood withdrawn from a vein in the arm, in a room at the temperature of 53° , coagulates in 4.5 minutes; at the temperature of 98° , in 2.5 minutes; and that blood which coagulates in 5 minutes at 60° , remains fluid for 20 minutes at 40° , and requires 60 minutes for complete coagulation; these experiments were instituted by Dr. Scudamore.

I beg leave, gentlemen, to direct your attention to this diagram, as it points out not only the proportionate elements of the blood, but also the changes which this fluid undergoes by its coagulation.



It is then to be observed that by the act of coagulation the blood separates into a fluid and solid portion; and this phenomenon occurs whether the blood be exposed to the air, or in vacuo, under the influence of heat or cold, whether at rest or in motion, and even where it has been extravasated in the living textures of the body: under each of these circumstances, however, some modifications occur both as to the period at which coagulation takes place, and the complete separation of the solid from the fluid parts.

The proportion of the quantity of serum to that of the crassamentum in healthy blood, is three fourths of the former to one fourth of the latter, but it is found that considerable deviations occur under disease and after loss of blood; so that the proportion of the two to each other is a most legitimate object of investigation to the pathologist.

It is also a remarkable fact, that the shape of the vessel which receives the blood influences very considerably this separable proportion. Thus, Dr. Babington received, at the same bleeding, some blood into a pear-shaped bottle, and some into a common basin; in the former, the serum was to the crassamentum as 10 to 15, in the latter as 10 to 22.

I beg leave now, gentlemen, to draw your attention to this table, in which the *proximate* elements of the blood and their proportions to each other in a healthy state of the fluid are set down.

It has been found by the best authorities that a thousand parts of blood contain of

Red particles	127
Fibrin	3
Albumen	72
Salts.	8
Oil	Trace
Water	790
	<hr/>
	1000

As each of these constituents performs most important functions in the animal economy, I shall speak of them separately.

The *red particles* in the human subject consist of a colourless nucleus, surrounded by red colouring matter contained in a capsule; it is through the medium of these corpuscles that the animal heat is generated and maintained, and, according to the theory of Professor Liebig, entirely by a chemical action; he describes the iron of these corpuscles to be in a state of protoxide, and that it becomes converted into a peroxide in its passage through the lungs. The oxygen thus obtained combines with the carbon of the various tissues of the body during its systemic circulation, and thus carbonic acid is formed, the union generating the animal heat. This carbonic acid being given off again in the lungs, restores the iron to its former

state of protoxide,—a condition the most favourable to the re-absorption of oxygen from the atmosphere.

It is impossible, gentlemen, to contemplate the particular function these corpuscles are destined to perform in the animal economy, without anticipating at once how many of the familiar phenomena connected with both constitutional and local diseases must depend upon the healthy condition of these constituents of the blood; and more especially when we observe what a large proportion they bear to the other proximate elements of this fluid. For instance, when superabundant, an increase of animal heat and redness of surface results; while, on the contrary, if there be a diminution of their just proportion, coldness and paleness evince that condition termed *anæmia*, and the treatment is at once indicated to restore the balance and due proportion of the red particles to the system, as they constitute the oxygen carriers of the blood, and are therefore especially connected with respiration and animal heat.

Fibrin.—This constituent stands next in order for our consideration, and perhaps may be considered by the surgeon as a more important ingredient than even the red particles, for it is by the exudation of fibrine from the blood-vessels that all lesions are healed. That this power of restoration of a wound should not be invariably the same, may readily be conceived, when it is understood that the proportional quantity of this plastic matter depends upon the general constitutional condition of the individual, being found to vary both in quantity and quality under different states of health: it is, in fact, by this plasma that most of the structures of the body are originally formed and maintained in a state fitting them for the performance of their various functions, and that, when subjected to injury, they are repaired. As the red particles are the constituents of the blood essential to the functions of respiration and animal heat, so may the fibrin be considered as acting the important office of the nutrition of the body: hence in the blood of new-born children, while those parts of the body of which fibrin constitutes a large proportion are yet but little developed, but a small quantity of fibrin is found; but in youth and adolescence, while nutrition in every part of the body is being carried on with an activity greater than at any other period of life, the largest quantity of the constituent is developed, and at this period of life injuries are most readily repaired. Self-coagulation is the peculiar inherent attribute of fibrin, and was adduced by John Hunter as an evidence of the vitality of the blood. I here shew you a specimen of coagulated fibrin procured by

stirring blood with twigs while in the act of coagulation, and you see it forms a net-work of most delicate fibres, presenting a much more organised appearance than this amorphous mass, which is albumen coagulated by heat. A wound recently inflicted by a cutting instrument is not, however, reunited by the fibrin thrown out with the effused blood, although there is reason to believe John Hunter did consider such to be the fact, as implied by his term of adhesion by the "first intention." The following seems to be the process by which a wound is united by adhesion: the blood which is thrown out coagulates, and covers the truncated tissues, probably a very essential provision towards reparation; the serum and red particles are absorbed, leaving a whitish clot or film—the fibrin; this soon excites a slight degree of inflammation in the surrounding capillaries, causing a tenacious diffuent secretion to be thrown out by them, termed plasma, or coagulable lymph, and which is, in fact, identical with the fibrine. There is reason to believe that the plasma of effused blood will, under certain circumstances, become organised, and repair an injury at once. In the Hunterian Museum of the Royal College of Surgeons there are some preparations of the fibrine of extravasated blood having become organised. I do not mean to imply, however, that all wounds are healed by this process of adhesion; for, when there is much loss of substance, another process must inevitably be performed.

Albumen forms a very principal constituent of the serum: it does not possess the power of self-coagulation as the fibrine, nor when coagulated does it present the same fibrous arrangements; but yet so similar are they that many physiologists consider them identical. It is believed by some that the albumen of the serum is held in solution and prevented from self-coagulation by the saline matters of the serum, while that portion termed fibrine, which spontaneously coagulates, is the quantity beyond what the salines can retain in solution, and separates, therefore, from the rest of the blood in coagulation. Liebig is of opinion that albumen and fibrin are readily converted into each other—in fact, that they are isomeric; and this view seems to be strengthened by the sudden changes which blood undergoes during its evacuation, as well as from the rapidity of the formation of fibrin under peculiar constitutional and local conditions. Mülder denies their isomerism, and attributes an atom more of sulphur to the albumen. Whether convertible into each other or not, it seems that the albumen, without undergoing any change, constitutes a considerable portion of many structures: of those, perhaps, which are less highly

organised than such as derive their nourishment from a supply of fibrin.

The important influence of the albumen in the animal economy is sufficiently evinced by the fact that its removal from the system, as in albuminuria, leads to such symptoms as would be expected to accrue from the loss of an equal quantity of fibrin. Surgeons ought therefore carefully to examine the state of the urine before they submit their patients to surgical operations; for, if that fluid be found to contain much albumen, but little hope could be entertained that the individual would sustain the shock of the operation, or at any rate survive the ineffectual attempts at reparation. Dr. Bright has most ably brought before the profession the pathology of this affection, and has indeed given so graphic a history of the appearance of patients suffering under albuminuria, that one can scarcely overlook the pathognomonic signs of the disease.

Salts of the blood.—I here show you, gentlemen, the saline matters of the blood procured by incineration, for I think it is better that the eye as well as the ear should convey to you a knowledge that such inorganic substances are present in this fluid. They are composed of chloride of potassium and sodium, sulphate and carbonate of potash and soda, phosphate and carbonate of lime and iron. It is believed that one of the principal uses of these salts in the blood is to maintain the fluid condition of the fibrin, for it has been observed by pathologists, in those diseases in which there is a deficiency of serum in the blood, and consequently of these saline matters, that the blood has been found extensively coagulated in the heart and large vessels; and from this fact arose the proposed plan of the injection of saline solutions in cases of cholera. A very small quantity of saline matter mixed with freshly drawn blood, will prevent its coagulation; from which experiment it may be inferred that any deviation from the due proportion of these salts must alter the natural condition of the blood. This undue preponderance of saline matter in the blood has not, I believe, been ascertained in any form of disease.

Oily and fatty matters may be obtained from blood by treating freshly drawn blood with boiling alcohol and ether: the alcoholic solution will obtain a crystalline fatty deposit, and the ethereal solution the oily matter. I believe but little is known of the use of this constituent, and it seems to be taken up by the blood under circumstances of its excess in the system in cases of obesity; therefore exercise and spare dietetic treatment would be indicated by its presence.

Water of the blood.—The specific gravity of the liquor sanguinis is kept at its healthy

standard by the dilution of the four last described ingredients with a due quantity of water; and so accurately is this balance required to be maintained for the preservation of health, that any notable change in its specific gravity is certain to be attended with some abnormal symptoms. The principal remedial means to be employed to restore the blood to its natural state are through the medium of the organs of digestion and lungs, with due attention to the excretions, at the same time administering such remedies as may be indicated by an excess or deficiency either of certain constituents of the blood, or of the whole mass of this fluid. Thus, for instance, in hyperæmia, in which the red particles of the blood are found far to exceed their normal proportions, and which is accompanied by a florid complexion and increased excitability, low diet, depletion, mercury, colchicum, and such medicines as increase the secretions generally, are indicated: while, on the other hand, in the opposite condition, in which is to be observed the pallid complexion, general debility, and retardation of all the natural functions, with the exception, perhaps, of circulation, which may be hurried, though weakened, the treatment indicated is just opposite to that of hyperæmia, and nourishing diet, gentle exercises, pure air, with administration of steel, will be found the best means of restoring this anæmiated condition. Such states, gentlemen, are quite as essentially important to the consideration of the surgeon as of the physician; for under such derangements a patient would be quite unfitted to sustain the shock of any surgical operation, or to repair any local injury he might have sustained, unless means were judiciously employed to improve the constitutional powers. It is the duty, therefore, of every surgeon, before he submits a patient to an operation, scrupulously to investigate his state of health with reference to his powers of assimilation, the normal action of his heart and lungs, and the general state of his excretions; the operator will otherwise find, when his discovery will be too late, that however dexterously the operation may have been performed, the art and science of surgery are two very different classes of study, and that manipulation will avail little, if his sense, as well as his senses, have not been exercised.

I shall say a few words, gentlemen, on the condition of blood termed its buffy coat, sometimes found soon after it has been withdrawn from the body. I mention it principally because it has been too frequently considered that so long as this state is observed so long may blood be abstracted and strict antiphlogistic means adopted. This rule, however, must be followed with caution, for it may be frequently observed that the

first portions of blood drawn do not present this phenomenon, and yet it may appear upon every succeeding quantity abstracted. John Hunter considered that it indicated inflammation, under the influence of which he supposed the blood had a diminished tendency to coagulate, and allowed, therefore, the red particles to subside through the liquor sanguinis, leaving the buffy coat above the red deposit. Later observations tend to show, however, that retarded coagulation is not the cause, but that it results from the attraction and cohesion of the red particles to each other, which therefore fall with an increased velocity as they descend. Anything which increases the specific gravity of the liquor sanguinis hastens the descent of these particles: this has been proved by Mr. Gulliver, who ascertained that by the addition of a little mucilage to freshly drawn healthy blood, he could hasten the subsidence of the red particles, and quickly produce the buffy coat, retarding, at the same time, the coagulation of the fibrin. Mr. Gulliver therefore considers that it is the abstraction of the red particles from the liquor sanguinis which checks the spontaneous coagulation of the fibrin, and not inflammation. He also found that by the addition of the red particles to healthy liquor sanguinis he hastened the coagulation of the fibrine in about the same proportion as their removal retarded it. It may be considered, perhaps, as a further argument against its being an inflammatory action, that blood abstracted by Sir Astley Cooper from a patient suffering from scurvy was found to form a very strong buffy coat.

ETHER VAPOUR ENEMATA.

M. PIROGOFF, Professor of Clinical Surgery in St. Petersburg, has been trying some experiments on the effects produced by the injection of ether vapour into the rectum. Having cleared out the rectum by an enema, M. Pirogoff introduces the ether by means of a catheter attached to a syringe, the latter being enclosed in a vessel of water sufficiently heated to convert the ether during its passage into vapour. M. Pirogoff thinks that the narcotizing effects are produced more speedily, and with much less pain and trouble to the patient. It was found that in from two to four minutes the odour of the vapour was perceptible in the breath; and the usual effect is produced on the patient in from three to five minutes. The quantity of ether used in each experiment has varied from half an ounce to two ounces. No injurious symptoms have followed its use in this way, and the most troublesome operations have been performed with great facility.—*Gazette Médicale*, 8 Mai.

ON THE APPLICATION OF
THE INDUCTIVE PHILOSOPHY TO
MEDICINE:

*Being the Oration delivered before the
Hunterian Society at the 28th
Anniversary.*

By GEORGE H. BARLOW, M.A. M.D.
Fellow of the Royal College of Physicians, and
Physician to Guy's Hospital.

ALTHOUGH the question as to whether I should comply with the invitation of your Council, and become your orator upon the occasion of this our annual festival, was easily disposed of upon the simple principle of duty, I confess that I had far more difficulty with regard to that which immediately arose, as to the subject upon which to address you. There have not, indeed, been wanting instances of admirable discourses upon special points of pathology or practice delivered upon similar occasions; but even were I prepared with any facts or reflections upon such subjects sufficiently interesting to lay before this assembly, it might be, and I believe has been objected, that such topics are more appropriate to our evening discussions. Neither could I hope to compress within the limits of a single hour any but the most meagre account of the progress of medicine in general during the last year, or indeed of such branches of it as have fallen under the consideration of the society during that time, even if I had enjoyed the leisure and possessed the industry requisite for such a task. Still less do I consider it expedient to enter upon questions connected with medical politics and the general organization of our profession, such topics being at variance with what I conceive to be the spirit of the Hunterian Society.

There are, however, considerations suggested to my mind by the name and objects of this society, and which, were I able to do them justice, would be well worthy of your attention; these I am induced to make the subject of the present oration.

Now I need hardly remind you, that that great man, in honour of whom this society is named, was one who pursued his investigations, both in physiology and surgery, in the true spirit of the inductive philosophy. "His works," said Sir Gilbert Blane, "are rare and valuable specimens of true inductive research, and for logical precision and ingenious originality of mind have never been surpassed, nor perhaps equalled, in the history of physiology*;" or, to use the words of one who, in addition to his own achievements in physiology, might justly claim the

distinction of being, in the present day, the exponent of the mind of Hunter,—I mean Professor Owen,—"If Hunter surpassed his contemporaries in the value and amount of the materials which he collected in comparative anatomy, he rises far above them in the application of his facts. By a profound and unremitting meditation on the diversities of structure presented to his view, he derived more accurate notions than were current among his contemporaries of the parts essential to the performance of the different functions, and every idea or doubt thus suggested he tested by the most varied, ingenious, and accurate experiments*;"—which means, if I mistake not, that he arrived at his conclusions only by a large induction of facts, and that he tested them, where it was possible, by an appeal to experience. Such then it will, I think, be conceded was the mind of Hunter, and such, I conceive, should be, and I believe is, the spirit of this society.

Neither should we forget that this society, which bears the name of Hunter, reckoned amongst its most active members, in its earliest days, Dr. Babington, Sir Astley Cooper, and Sir William Blizard,—I select the names of those who are departed, that I may not, by speaking of the living, incur the imputation of flattery,—men who, whilst each was eminent in his favourite branch of knowledge, the former as a chemist, and the latter as anatomists, and were thus enabled each to add much to the general stock of professional knowledge, were alike distinguished for their vast experience in the practice of their profession, or, in other words, for the degree in which their judgment was matured by observation. They were, in fact, each more than he was perhaps conscious of to himself, men who formed their practical conclusions, who acted, so to speak, upon the largest induction within their reach.

But the experience of any one man, however extensive his opportunities, however great his industry, or however long his life, can furnish but scanty materials for sound induction; and accordingly it will be found, as in the case of the distinguished instances to which I have alluded, that those whose experiential knowledge is the soundest and the greatest, are also the most eager to avail themselves of the experience of others engaged in similar pursuits; although one man may seek it in books, another in oral intercourse, and another in both. Each of these means has its own peculiar value. Recorded experience in books places within the reach of any one the observations of another who may be separated from him by distance of space or time; but, at the same

* Elements of Medical Logic, 2d edit. p. 38.

* Preface to Vol. IV. of Palmer's Hunter, p. ix.

time, it should be remembered that the phenomena with which we have to do are for the most part so complicated, that it frequently happens that the very particulars which one man has been led to regard as the most important, or which subsequent experience may have shewn to be so, are exactly those which have been the least regarded, or the least accurately noted, by another: hence it follows that, in the conversational intercourse of a number of persons engaged in similar investigations, questions are often asked of the narrator of any observation, which recal to his remembrance circumstances which he would otherwise have forgotten; and thus it happens not only that a greater degree of accuracy is obtained for any particular observation, but the power of observing in the individual is immensely increased. Whilst, then, recorded experience is the main engine by which the knowledge of any art or science resting chiefly upon experience is rendered traditive, it is in a great measure by oral communications (opportunities for which are furnished by associations like this society), that it is rendered cumulative; and it must be both cumulative and traditive in order that it may be progressive.

And yet methinks I hear it objected by some ardent student of minute structural anatomy—who, delighted with the wonders which the microscope has opened to our view, and eager with the anticipation of those which it has yet to disclose, hopes that we may be one day enabled to lay bare the hidden machinery of life—are these revelations of no avail? and, may we not hope so perfectly to understand the mechanism of the human frame, that we may render medicine a deductive science, and thus escape from the trammels of a tedious and apparently interminable induction? Or may not one be found who is occupied with the disclosures made to us by organic chemistry, and who secretly, fondly it may be, cherishes the hope that the same end may, at some distant period, be attained by the perfect exposure of the chemistry of life. I cannot but suspect that there are those who look for the discovery of the vital principle with the same eagerness, though not with the same selfishness, as that wherewith the ancient alchemists sought for gold.

Yet even were it true, which I think few will be willing to assert, that we are in the road to the discovery of the ultimate machinery by which the operations of life are carried out, and the mode in which the play of chemical affinities is made subservient to the principle of vitality, though it can never supersede it, we shall still be at a loss when we would apply this knowledge to the investigation of disease in the way of deduction. We can never, I repeat it, by any

knowledge we have attained or may hope to attain, in physiology or organic chemistry, establish any principles in medicine *synthetically*. "A slight attention to this subject," (I use the words of Dr. Alison, one of the most philosophic physicians of the day,) "is sufficient to shew that there are many facts in regard to the operation of external causes upon the human body, and the modes of diseased action assumed by its different organs, which could not possibly have been inferred from our knowledge of the structure and healthy action of parts, which are made known to us only by observation of the diseased conditions of the body themselves, and can only be properly generalised by an induction strictly confined to this department of knowledge."

Since, then, it must be admitted, that medical laws can only be established by induction of facts or observations in great measure derived from medical experience, by which I mean the observation of the phenomena of disease, and the effects of remedies upon them, and as one great object of this Society is the collection of such facts, it may not be out of place, though I approach the subject with great diffidence, to make a few remarks upon the application of the inductive philosophy to medicine.

But here I must beg that I may not be misunderstood, or be supposed for one instant to be endeavouring to decry those important branches of knowledge to which we owe much of the light that has of late years been shed upon medicine. Facts drawn from organic chemistry or physiology, or both, may be included with those drawn from the observation of disease; nay, they *must* often be so, in order that the induction may be complete; and, what is more, we often cannot appreciate the existence of disease without a reference to one or both of those branches of knowledge; as, on the other hand, the physiologist must admit that some of the best established laws with which he is conversant have been based upon inductions in which medical facts have been included. Indeed, to these departments of knowledge there might be emphatically applied the motto inscribed upon his work by the learned historian of all the inductive sciences:—

λαμπάδια ἔχοντες διαδύσαντιν ἀλλήλους.

Now before we proceed further, it may be well to notice a discussion which has been sometimes raised as to whether medicine is to be reckoned among the inductive sciences at all. I am not disposed to enter into this controversy, which I believe might be altogether avoided by a strict attention to the meaning of the terms which we employ. The fact is, that medicine is not a science at all, and never can be; it is an *art*, a *scientific art* if you please, but not a science: and

I hold this distinction to be one of practical importance.

It is true, indeed, that a late distinguished member of our profession, who, both as a physician and a man, was one of the brightest ornaments of his age and country, I mean Dr. Abercrombie, has reckoned medicine and political economy as uncertain sciences; but besides that I object to the expression uncertain science, as a contradiction in terms, I think it far better to adhere to the distinction drawn by Dr. Whewell. "Art and science differ: the object of science is knowledge; the objects of art are works. In art truth is a means to an end; in science it is the only end. Hence the practical arts are not be classed among the sciences."* Medicine, agreeably to this, is a practical art—the works which are its objects are the prevention, the cure, or the alleviation of disease, and the truths of which it avails itself as a means to that end are those furnished by physiology and pathology. It may, indeed, be objected that physiology, and still more pathology, are sciences in which we have no certain knowledge upon many points, and therefore that they are uncertain sciences. I should say rather that they are incomplete so far as our knowledge of them is concerned, not that they are in themselves essentially uncertain, by which I can only understand that the necessary sequence of cause and effect does not hold good in the animal system as it does in inorganic matter. It was said by Laplace that the present condition of the universe is the effect of that which preceded it, and the cause of that which is to follow it:—words which are most true if we accept the terms cause and effect in the only sense in which they are admissible in a rigidly inductive philosophy, namely, as antecedent and necessary consequence; for they then amount to this—given the condition of the universe at one time, that which immediately results is its necessary consequence in obedience to laws imposed upon matter by Him who called that matter into existence, and is still "upholding all things by the word of his power;" but which that very inductive philosophy which excludes the speculation upon efficient causes, compels me to assert to be most untrue, if they mean that one state follows the other in virtue of any properties innate or inherent in matter itself.

And the same philosopher goes on to observe, that an intelligence which could obtain a knowledge of all the forces by which nature may be at any given instant animated, and the situation of the different existences of which she consists: if it were moreover of such stupendous power as to be able to submit all these data to analysis, could include in a

single formula the movements of the greatest masses of the universe and those of the minutest atom, to such an intelligence there would be no uncertainty, and the future as well as the past would be open to its view.

This great master of the mechanism of the universe does not, however, pretend to assert, or even to intimate, that such an exploit has ever been achieved by any human mind, or even that it is possible that it should be; he merely asserts that such a thing is conceivable of some far more powerful intellect. We do not, however, on that account the less consider the celestial mechanics as an exact science; on the contrary, we are often in the habit of citing it as the very type and model of such a science—and I believe, as I have elsewhere said,* that the same holds true of the animal frame. The present condition of any animal body is the effect of that which preceded it, and the cause, conjointly with any extraneous influence to which it may be subject, of that which is to follow it; and that an intelligence which could embrace at once the physiological and pathological condition of every organ of the body, and of the fluids which circulate in its vessels; if it could moreover estimate in their due proportions the various forces, as well mechanical and chemical as vital, by which each of these particles may be at any given moment acted upon, would be able to calculate its past, and foresee its future condition, and to predict the result of any new agent which might be introduced into the system. But the greater difficulty and complexity of the problem in this than in the former case, to say nothing of the apparent impossibility of obtaining the necessary data, seems *à fortiori* to preclude the possibility of its solution by any human, I had almost said by any created, mind. It does not, however, from this follow that there is any uncertainty in the laws which regulate organic matter, or that chance interferes in vital actions any more than it can disturb the planetary orbits or control the trajet of comets.

But it may be asked, what matters whether any department of knowledge be essentially uncertain, or whether it be only apparently so from the imperfection of our acquaintance with it. To this I reply, that, in the latter case, we have a confidence in the existence of ultimate facts, and a reliance upon laws ascertained by induction which would be absurd in the former. In the former case the accumulation of observations for induction would be a useless waste of labour, and every attempt at generalization the fond pursuit of an unattainable object; in the latter, induction is not only reasonable but practicable, and laws more and more com-

* Philosophy of the Inductive Sciences.

* Guy's Hospital Reports, vol. i. Introd. p. xlii.

comprehensive may be established if investigated in a chastened spirit of generalization.

Again, it may be objected that all this amounts to no more than a recognition of experience as of paramount importance, a truism which needs no argument to enforce, and which has never been called in question, so far at least as our profession is concerned. It is true, indeed, that experience must generally co-exist with induction, and is, I may say, included in it, but it is not identical with it: "Experience cannot conduct us" (I again quote the words of Dr. Whewell) "to universal and necessary truth: not to universal, because she has not tried all cases; not to necessary, because necessity is not a matter of which experience can testify."* I believe, moreover, that his mere experience is not a thing which one man can communicate to another; the results of his experience he may, but if those results are not truths based upon induction they are valueless, or something worse. But if induction is not experience, what is it? "Induction is a term applied to describe the process of a true colligation" (i. e. grouping together) "of facts by means of an exact and appropriate conception." "The word induction is also used to denote the proposition which results from this process; an induction is not the mere sum of the facts which are colligated—the facts are not only brought together, but seen in a new point of view. A new mental element is thus superinduced."†

As an example of the mistaking experience, which is, if I may be allowed the expression, the raw material, for the wrought and finished induction, I might adduce the by no means uncommon instance of the assertion that a certain remedy cures a certain disease; and if the person making this assertion be asked his reason for doing so, he will reply that he has seen a large number of cases of the disease treated with this remedy, and by far the greater number of them recovered. Now this statement may be quite correct, and more than this, it may be so exact that the ratio of the unsuccessful cases may have been accurately noted, and yet is not an induction; it is a mere sum of the facts witnessed by the narrator, and may furnish material for an induction, an essential constituent of which would be (as it is almost needless to observe) a group of cases in which the remedy was not used‡. The distinction between experience and induction may be further exemplified by the "numerical method," as it has been termed, of

which such vast expectations were some years ago entertained,—expectations, however, which it does not singly seem likely to realize.

In the numerical method we are, indeed, presented with the sum of the facts, and these facts are not a mere heterogeneous assortment of observations, but, according to the plan of M. Louis, they are *well-observed facts*, and *colligated facts* too, but not facts colligated by any new and appropriate conception; they are not facts seen in a new point of view, no new mental element is superinduced. Thus, for instance, to use one of the illustrations furnished by M. Louis himself, rusty viscous semitransparent sputa form one of the most remarkable and constant symptoms of pneumonia, and are very rarely absent,—at least, when the disease attacks a person previously in good health and of mature years. Still, this symptom has been absent, and in the circumstances just indicated; and he goes on to observe, that by collecting the number of exceptions out of a large number of cases, we should obtain the value of the exception, and consequently the real value of the symptom, and this would be very important as an aid to semeiology or diagnosis, but we gain from it no new idea in the way of causation. The very circumstance of there being a single exception precludes the idea of their being *necessarily* and *immediately* connected in the way of cause and effect.* Indeed, I am of opinion that this very habit of estimating symptoms according to their frequency, though unavoidable, has introduced a certain degree of inaccuracy of thought and language into medical reasoning. Thus I believe it not uncommon to use the expressions that such a thing "is generally true," and that "it is a general law that it is so," as convertible terms; but they are not so: for in common language, when we say that such a thing generally happens under such and such circumstances, we mean that it does *not* do so universally and without exception, whereas in inductive science a general law is one that *does not admit of an exception*. Thus, to take another of the instances given by M. Louis:—that truly great physician says, that we know at this day that after the age of fifteen years, whenever we find tubercles or grey semi-transparent granulations in any organ, they coexist at the same time and in a still more advanced stage in the lungs. But observation in this country

* Op. cit.

† Dr. Whewell, op. cit.

‡ The above is one of the illustrations given by Dr. Abercrombie of false induction; it is, however, more properly an instance of mistaking the sum of the facts witnessed by any observer for an induction.

* The converse of the above proposition, which I believe might be established, viz. that such sputa are never seen without pneumonia, would go far towards proving what no one I believe doubts, that they are the consequence, but not the immediate consequence of the disease.

has found exceptions to this rule, though perhaps the proportion of those exceptions is small. Here, then, the proposition laid down by M. Louis is in common language generally true, but it is not a general law according to the inductive philosophy, neither can we draw any inferences from it as if it were such. The exceptions must take place according to some higher and more comprehensive law than that which appears to have been broken; and it may, for instance, be found that the exceptions to this proposition occur in those cases in which the lungs have not attained that full development in proportion to the rest of the system which they do ordinarily and in the healthy subject attain about the age which he has mentioned. Should this prove to be so, the proposition would stand thus:—Whenever, after the lungs have attained their full development in proportion to the rest of the system, we find tubercles in any other organ, they coexist, and in a still more advanced stage, in the lungs.

Again, it has been stated that diminution in the secretion of urine is a frequent concomitant of obstructed bowel; but there are many exceptions to this rule. We might, indeed, by counting in a large number of cases, ascertain in what proportion this symptom is present, and thus obtain an expression for its value as a diagnostic sign. If, however, we colligate or bind together these facts according to a new conception, viz. the position of this obstruction in the intestine, we shall, as far as I have observed, obtain the following result:—That in those cases in which the obstruction is situated near the pylorus the urine is scanty, but when it is low down in the alimentary canal it is abundant; but in the former case all the ingesta, and consequently all fluids, are quickly rejected from the stomach: we are thus furnished with a law more comprehensive than that to which there appeared to be exceptions, namely, that obstruction to the passage of fluid to the absorbing surface of the intestines is attended with diminished secretion of urine.

I trust that I may not incur the imputation of vanity if I adduce an extension of this generalisation, and with it an instance of its application to diagnosis. I observed that whenever there existed disease which would cause obstruction in the course of the channel through which fluids taken into the alimentary canal are supposed to reach the systemic arterial system,—namely, in the upper part of the alimentary canal, in the portal vein and its ramifications, in the liver, in the *venæ cavæ hepaticæ*, the right side of the heart, the lungs, the left heart, and the large arteries,—then we should find diminished secretion of urine, a result which I should

submit was obtained from an induction of facts in other respects essentially different*—a circumstance which I consider of no small importance, since it is only by the *comparison*, or rather *contrast* of instances, differing in most respects, but agreeing only in one or two, that we can hope to eliminate the adventitious circumstances, and retain the essential. And the application of this to diagnosis was as follows:—A man was admitted into Guy's Hospital under my care, with much anasarca of the integuments of the trunk, of the scrotum, and of the lower extremities. When he was examined in bed it was further found that he had considerable ascites, and that the liver was some way below the margin of the ribs; but it was also noticed that the superficial veins of the trunk were enormously distended from Poupart's ligament to the axillæ. The obvious inference from this was that the ascending cava was so much obstructed that the blood was returned to the lower extremities by the superficial vessels. This as a matter of very rough experience directed attention to the kidneys; the urine was carefully observed, and for some time nothing was discovered except that it was exceedingly scanty. Thus far, then, we had evidence of obstruction, not only in the ascending cava, but in the course of the circuit which I have described, and the point of junction of these two is the entrance of the hepatic *cavæ* into the ascending cava. The enlargement of the liver did not perplex us much, as we knew that obstruction to the current of the blood in this situation would produce enlargement of this organ. But, in addition to this, sickness had been for some time a very urgent symptom: now an extended observation, rather, it must be admitted, of the numerical or statistical than of the inductive character, had led me to the conclusion that where there is strong evidence from other circumstances that disease exists either in the kidney or in some neighbouring structure: the occurrence of sickness renders it highly probable that the kidney itself is the organ affected. But in the course of about a fortnight considerable hæmaturia came on, which lasted, however, only for a few days.

We had now to seek for a cause, but that was to be a *vera causa*, and one which would account for all the phenomena, and the only one which suggested itself to our minds was a fungoid growth originating in the kidney and extending along the renal vein to the ascending cava, and along that nearly to the right auricle, at least above the entrance of the *venæ cavæ hepaticæ*. Now pathological anatomy has furnished us with several such

* Guy's Hospital Reports, 2d series, vol. ii. p. 313, et seq.; and vol. iii. p. 283, et seq.

instances: we had then a *vera causa*, and one capable of accounting for the phenomena; but as if in order that nothing (except the more palpable proof of feeling the tumor, which we never could) should be wanting, the man a short time before his death was the subject of hæmatemesis and mælena. Here, then, we had further proof of the obstruction to the portal circulation. So strong a conviction was thus produced upon the minds of many, that I believe at the inspection a most intense disappointment would have been felt had we not found the exact, though rare, lesion which had been predicted.

I have now adduced a few instances in which induction has been available in medicine, or to which I consider that it might be applied, but I must not omit what I conceive to have been the great achievement of medical induction; still less can I do so when I recollect that the discovery to which I allude emanated from this society; and that its author upon this day occupies our chair for the last time*. It was an admirable observation, that of Dr. Blackall, of the connection of albuminous urine and the dropsy consequent upon scarlatina; and his associating this symptom and other forms of dropsy was an approach to an induction of no light importance: still, the generalisation from this, that a certain plan of treatment was generally applicable in these cases, was not devoid of error. The connecting, however, of these different manifestations of the same disease with a lesion of the kidney, and including with these, in connection with the same lesion, other forms of disease totally, to all appearance, dissimilar except in the circumstance of albuminous urine, was a true colligation of facts according to an appropriate conception, and has furnished us with so sound an induction that the fundamental law thus established has been made the basis of deductive reasonings which promise much improvement in practice.

Allow me before I conclude to make a few remarks in order to obviate an erroneous impression which may have arisen from the statement that general laws do not admit of exception in medicine more than in any other department of natural knowledge. This, however, is nothing more than a mode of expressing that confidence in the uniformity of nature which must be assumed as one of those first truths which are the foundation of all reasoning. To this it may be objected that there are no laws in medicine which do not admit of exception; as, for instance, several of the neutral salts are reckoned as diuretics because they usually increase the secretion from the kidneys, but we also know that these substances often

fail of producing this result; nay, every practical man will tell us that there are few medicines upon the action of which so little reliance is to be placed as diuretics. There is, however, good reason for believing that these substances do act as diuretics when they reach the kidneys in solution, but their doing so may be prevented by various morbid conditions, or the kidney may be diseased to such an extent as to be, physiologically speaking, no kidney at all. The connection is not necessary and immediate between the taking the salt into the stomach and its diuretic effect, for there are several intermediate conditions—as its absorption into the circulation, and its passage along its course, and if any of these be interfered with the result anticipated cannot ensue. It is true, indeed, that conditions likely to cause such interruptions may often be detected and the failure of the remedy predicted, but as this cannot always be done, we are still left in some degree of uncertainty as to the result; an uncertainty which the increase of our knowledge will ever tend to diminish, but which it is not likely entirely to remove.

Again to take an instance given by Dr. Abercrombie, the effluvia of marshes are considered as the exciting cause of intermittent fever; but the disease is not produced in all who are exposed to these effluvia, and to account for this discrepancy predisposing causes have been invented: thus in the present instance various circumstances, such as fatigue and intemperance, have been said to act as the predisposing causes, a term to which Dr. Abercrombie very justly objected; for, said he, "in other situations fatigue and intemperance were never known to produce intermittent fever, and they cannot therefore in correct language be said to be connected with the disease in the manner of cause."*

Now the explanation of this will I believe be, that whereas in the former case the natural and physiological result would ensue if the system were in its normal and physiological condition, so in the latter case there is in a healthy body a power of resisting morbid influences; viz. the vital force, though we do not at present know in what that vital force consists, and there is moreover an apparatus for removing poisonous agents from the system—namely, the depurating organs: but the first may have been impaired by fatigue, and consequently have become unable to resist the morbid influence, or the depurating organs may have been injured and rendered unfit for the elimination of the poison, which may therefore have accumulated in the system. But neither the absence or defect of the conservative power, nor the imperfection of the

* Dr. Bright.

* On the Intellectual Powers, p. 241.

instruments by which it should act, can be said to be the cause of the destructive one, any more than the ignorance or neglect of the master can be assigned as the cause of the storm that wrecks the vessel. When, however, I speak of conservative force I do not mean the hypothetical *vis medicatrix* of Cullen; I mean nothing more than that vital force or vitality which all sound physiologists have agreed in regarding as an ultimate fact; and by the instruments which it makes use of, that exquisite machinery the adaptation of the various parts of which to their several objects becomes more and more apparent the better their structure is understood; at the same time too it should be remembered that that adaptation could, in many cases, never have been guessed at without the previous assumption that they were designed for some important purpose. And this leads me to remark, that, whilst the maxim that *nothing happens by chance* is as true, in those departments of knowledge conversant with organised matter, as in physical science, we recognise another aphorism as no less true, but as more especially applicable in the former, namely, that "*in organised beings nothing is in vain.*" The truth of this axiom needs no demonstration, for the notion of adaptation of means to the end is implied in the very term organisation; its applicability has, however, been called in question upon no less authority than that of the great lawgiver in science. Final causes, said Bacon, like the vestal virgins, are devoted to the service of the divinity, and *they are barren*. And yet it is not improbable that when these words were uttered the doctrine of final causes was pregnant with the richest fruits, for at that very time may Harvey have been entering upon that contemplation of the use of the valves which resulted in the discovery of the circulation of the blood.

I have been endeavouring, most feebly I am aware, to illustrate the first of the above maxims (of which, indeed, the most comprehensive induction is but the development), and to shew that it is by a rigid adherence to it that we can best hope to extend our knowledge and increase our powers of usefulness. At the same time I do not hesitate to express my conviction that we are, *at this time more especially*, in need of some such simple and incontrovertible maxim, not only as a rule of philosophising, but as a principle of action. It cannot, I think, have escaped the notice of any observant member, either of our own body or of the community at large, that there is in the minds of a portion of the public a want of confidence in the principles upon which medical practice is based, or rather a doubt, if not a disbelief, of its being based upon any fixed principles at all; and I cannot divest myself of the opinion that this

feeling has gathered strength from a suspicion that there lurks in our own mind some hardly-repressed misgiving as to the stability of the ground upon which we are treading. Now it is, if I mistake not, to this suspicion on the part of the extra professional public, and to this want of confidence on our own, that we must ascribe much of the vigour of the rampant quackeries of the day. Let it, however, but be seen that we profess as the fundamental principle, both of our doctrine and practice, a belief in the uniformity of the operations of nature, and in our duty to generalize *only* upon a patient observation of them; and then these quackeries must lose their hold not only upon every philosophic but upon every truthful and humble mind. I do not mean to assert that they will thus be exterminated, or that new ones will not arise. I believe that in one form or another they will be continually springing up, as among the necessary consequences of that moral evil which exists in the world, and that the contest between them, and the unpretending exercise of those powers, avowedly limited, which we have acquired and hope to increase by patient observation of the order of nature, is analogous to the great struggle between moral good and evil, which is to go on as long as the world shall last,—if it be not identical with it.

For it may not be amiss to remind you that the quackeries of by-gone days were based upon a belief in certain mysterious and preternatural agents, and consisted in a pretence to turn such agents to account in the removal of physical evil; those of the present day rest upon an exaggerated belief in the energies of natural agents, and consist in a pretence of turning these agents to account, and deriving from them a power far beyond that which has as yet been conceded to those who wait patiently upon nature, in the humble trust that the processes of the God of nature will thus be gradually disclosed to them, and that they will be more and more enabled to imitate them. But the essence of the old quackery and the new is nevertheless the same; it is now as heretofore an impious arrogance of extraordinary powers, availing itself of a weak but rebellious discontent with the means at present vouchsafed us of combating natural ills. And if this be a correct estimate of the mischiefs of which I have been speaking, our resistance to them will be less angry, and, in the eyes of the public, less self-interested, but our condemnation of them more dignified and severe; for we shall treat them, not with the petulance which might be supposed to be excited by an infringement of the rights of our craft, nor even with the scorn which might be due to a logical absurdity, but we shall entertain that feeling towards them of

pity rather than of contempt, of sorrow rather than of anger, with which we ought to regard what we honestly and upon good grounds believe to be not only a moral wrong but a flagrant impiety.

I cannot, I think, conclude more aptly than by quoting the words of one, the earnestness and sincerity of whose character give additional weight to the eloquence of his language.

"Those among us who have devoted themselves to physiological or chemical investigations, appear fully to understand our position in reference to these and the duties which it imposes upon them. They are not anxious to bring back a cold statical character into physics; they do not demand that science should retreat into corners and disclaim a connection with the common toils and occupations of men. But since the desire to turn natural agents to account must assuredly breed infinite quackeries, and probably some dark superstitions, they would lead men to see that the right employment of every such agent by us, involves a solemn inquiry into the functions and energies which the Creator has assigned it; they would look upon every experiment as a devout prayer to Him that He would reveal his own methods that we may imitate them; and as they would complain of all check upon such experiments as contrary to his will, and a kind of denial of man's relation to him, so they would treat all dealing with physical powers and mysteries, which is not founded upon such discoveries, or is not for the purpose of leading to some, as mischievous profaneness,—a wrong to man, and an insult to God."*

DIET IN INFANCY.

DR. KLENCKE calls attention to the important deterioration which the milk of stall-fed cows undergoes, and is inclined to attribute the production of scrofula in children in many instances to its direct transmission through the medium of this fluid. Although the direct production of scrofula by the contagious properties of the milk is assumed rather than proved in this pamphlet, still the fact is very important that stall-fed cows often become tuberculous, and that their milk loses much or even the whole of its sugar; that the butter and casein diminish, while albumen is found sometimes in as high a proportion as 15 per cent., and again in the proportion of 1·4 per cent., and that in some cases lactic acid is likewise present.—*Dr. West's Report on Midwifery*, 1845-6.

* See Introduction to *Law's Remarkable Case of the Bees*. By the Rev. F. D. Late Chaplain to Guy's Hospital, F. Divinity at King's College. p. xxxi.

A CLINICAL LECTURE ON DROPSY, IN CONNEXION WITH RENAL AND CARDIAC DISEASE;

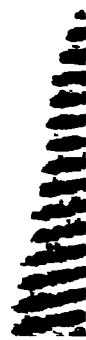
Delivered at the York Medical School

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Notes of a case of dropsy with albuminuria and cardiac disease—Note of the post-mortem appearances in another case—Comparison of the two cases—Explanation of the symptoms—The anasarca dependent on enfeebled capillary action caused by the morbid condition of blood—Explanation of the albuminuria—Of the effusions into the sacs—Case of albuminuria and hæturia, with scrofulous disease of kidneys—Origin of serous inflammation in "Bright's disease"—Analogous nature to arthritic and rheumatic inflammation, and why—Action of it in the blood—Origin of the disease in the patient, and progress of the changes—The cerebral symptoms explained. Pathology of the disease renal degeneration fatty—Freection of fat in the blood—The fat sufficient for the explanation of the phenomena—What becomes of the fat?—Treatment.

DROPSY is the old-fashioned name or quasi serous effusions into the or cellular tissues of the body. It is consequent on various morbid changes in the viscera and in the tissues in which it takes place. We went to anasarca in which there is probable "disease" of the kidney, and albuminuria or albumen in the urine like these terms much. "Bright's disease" sounds to me peculiarly unsatisfactory: it reminds one of *Venus*, and such like phrases are only the name of a syphilis dropsy is; but dropsy expresses albuminuria, because the effect is a true disease; that is a disturbance of function, we know that albumen in the blood has the effect: it may, indeed, be vis medicatrix naturæ, and of relieving congestion it therefore prefer the old name. New phrases are; they express the same thing.



eyelid there was a bladdery appearance, as if there were fluid under the flaccid skin; his lips were slightly livid; he breathed with difficulty, lifting his shoulders at each inspiration; he spoke in short broken sentences. He showed us his cedematous legs, pale, shining, doughy, of a uniform thickness, and swollen to the thigh inclusive.

His anamnesis or medical biography was this: he had often had attacks of rheumatic gout, and for the last year or two his general health had been failing. Fifteen weeks ago he began to look sallow, and had difficulty of breathing. A week after his legs began to swell, his appetite was bad, and he was very weak. Three weeks after this he began to experience pain below the left nipple, and palpitation at the heart, with "flying" pains in his elbows, sides, and across the præcordial region. His nights now began to be nearly sleepless, and in a week or two he could get no sleep at all, unless propped up in an upright position; and, in a week or two more, sleep left him, or, if he dropped asleep for a moment, he awoke in terror, saw spectral illusions, and frequently spent his nights in delirious conversation. With the sudden starting from sleep, he had a sensation of something rising in his throat and about to choke him. Has cough, but no expectoration; his stomach is irritable; has diarrhoea occasionally from very slight causes, and his urine is extremely scanty. I had already tried it with heat, and it contained so much albumen that when boiled it became as thick as soup. Mr. Britton has examined it also, and he reports its specific gravity at 1.017, and that it contains much albumen. Such is the *coup-d'œil* of a case of "Bright's disease," or albuminuria, or more properly of dropsy from structural disease of the kidney. We extended our examination, however, to see if we could find out what changes the thoracic viscera had undergone, and how we could explain the short heaving inspiration, and the speech in short, broken sentences, so striking in our patient. Percussion gave a dull sound over the whole chest, except in the axillary and infra-clavicular regions. On applying the stethoscope there, we heard a loud bronchial murmur at both inspiration and expiration, which became much more intense when the patient stood erect. This sound became less and less distinct as we applied the stethoscope farther and farther from the infra-clavicular and axillary regions, until we heard it only as a distant vibration. Percussion in the præcordial region gave a dull sound even beyond the right margin of the sternum; the heart was heard beating over a large space, but the sound was heavy, dull, as if deep down, and we could not distinguish any murmur; even if there had been any, we should not have been able to do so, as

the loud bronchial sounds masked every other.

Diagnosis.—What, then, is the condition of this patient? Meningeal or cerebral irritation; effusion of serum into both pleuræ; condensation and oedema of both lungs, and displacement of them into the upper portion of the thorax, from the pressure of the fluid; hypertrophy of the left and dilatation of the right ventricle, and probably hydrops pericardii; congestion of the gastric mucous membrane; enlargement, probably some degree of ulceration, of the intestinal glands, and congestion and structural disorganization of the kidneys. The pathognomic signs of the latter change are the waxy complexion and the anasarca, the low specific gravity of the urine, and the albumen in it. The disease of the heart and the effusion into the pleura are in a less degree pathognomic, and the former less than the latter.

With regard to the nature of the structural degeneration of the kidneys we can say nothing positive, except this, that it is sufficient to prevent the proper excreting action of the organ. Consequently there is urea in the blood of our patient, and this is, I think, the real disease—our patient is suffering from a poisoning of the blood. The deposit which interrupts the function of the kidneys may be only lymph, or blood itself congesting the secreting structure; but I think there is more than this, and that we have either tubercular matter, or that fatty matter which characterizes "granular" degeneration; if the latter, it is the true "Bright's disease." But these are inferences only drawn from the written experience and researches of professional men; we are not sure that the serum of the blood contains urea, nor that fat is deposited in the kidneys, but it is extremely probable.

Before attempting an explanation of the symptoms, we will recur to another case of dropsy which proved fatal on Sunday last, and gave us an opportunity of investigating some of the morbid changes by an examination after death of the subject of it. He was what might be termed a "shamblesman," and had lived fast. For some months he had felt occasional pains in the præcordial region, and had been in bad health generally, although able to labour. About eight weeks before his death, he had a drinking bout, and drank more than a gallon of ale at a sitting; he also at the same time was exposed to cold and wet. This was more than his kidneys could tolerate; it was a dangerous thing for a man in his condition to be exposed to one of the most frequent causes of renal disease, while the kidneys were acting as the sluices to carry off eight or ten pints of ale. In a few days the pain in the præcordial region

was aggravated; the breathing began to be difficult, the ankles cedematous. Then the disease made the usual progress from day to day; the breathing was more and more difficult until the recumbent posture was impossible, and the sleepless nights were spent in agonizing struggles for breath. The anasarca extended more and more—first up the legs, then the thighs, then the abdomen, then the scrotum and penis, until he was like a tense bladder from head to foot, and vesicles began to form on the legs and trunk containing serum. General and local depletion, purgatives, diuretics, &c. were tried in vain, and at last death came to his relief. When we went to make the post-mortem examination we found the face livid and bloated as if he had been strangled, and on cutting through the skin serum trickled out at all points. We found both pleuræ filled with serum, the lungs pushed up to the upper and anterior part of the chest, cedematous and gorged, but otherwise healthy; the pericardium contained some sero-sanguineous fluid; the left ventricle hypertrophied and dilated; the aorta stiff and hard with atheromatous deposit, and its lining membrane ulcerated here and there. The valves and right ventricle in a normal condition; the liver gorged, anasarca, but not otherwise diseased; fluid in the cavity of the peritoneum; the kidneys excessively congested, and so soft as to be almost pul-taceous, but there was no deposit visible either to the naked eye or by the aid of a powerful microscope. During life the urine was albuminous.

Here is a case resembling that under treatment in many leading points. The anasarca, the effusion into the pleura, the hypertrophy of the heart, the albuminous urine, are symptoms common to both. But the two persons differ in constitution; the latter had the more vigorous constitution, he was less cachectic, and the disease was dependent less on the predisposing than on the exciting causes of the disease. In the one, the predisposing have favoured an abnormal deposit in the kidneys; in the latter (the "shambles-man"), hard drinking and careless exposure developed an inflammatory condition of the kidneys—or if not this, at least the most intense congestion; and thus the renal function was as effectually interfered with as if there had been actual degeneration.

The first and leading symptom is the anasarca: how is this to be explained? The answer most readily given is, that it is owing to the dilatation of the right ventricle and consequent venous congestion; but this explanation never satisfied me, although advanced by distinguished pathologists, to whose opinion much deference is due—Dr. Watson, for example. My reasons for this opinion

are—first, that dilatation of the right ventricle and great venous congestion often exist without anasarca; you may see that the lips and cheeks are livid, but there is no cedema of the face, no bladders at each under-eyelid. Secondly, anasarca will take place in persons without dilatation of the right ventricle or disease of the heart. Illustrations of this latter statement have occurred to us repeatedly at the dispensary in the persons of chlorotic females, with their puffy eyelids and cedematous feet and ankles. Persons residing in a malarious district are anasarca. Persons who have lost much blood will be anasarca: children recovering from scarlet fever will suddenly become anasarca *a capite ad pedem*, but without dilatation of the right ventricle, and in these the urine is albuminous and the disease is renal dropsy. And you will observe that there is no dilatation of the right ventricle of the heart in our lately deceased patient; it is the left only that is dilated, and that probably in consequence of the atheromatous condition of the aorta, which at one point near its termination in the ventricle rings like bone when struck with the forceps, and is, in fact, ossified. What then is the cause of this distressing and formidable symptom? The illustrations I have mentioned point to it, I think: in chlorosis, in sufferers from ague and malaria, in persons who have lost much blood, and in those with disease of the kidney, there is the common agreement of a deficiency of colouring matter,—of hæmatosin, or in plain terms, of iron in the blood. You have seen how often in cases of chlorosis the anasarca has been renewed by the administration of iron. There is also a numerous class of diseases of the digestive organs afflicting principally sedentary persons in whom the complexion is pale and chlorotic, and which is most effectually remedied by chalybeates conjoined with antacids, and very minute doses of mercury, and these may be referred to as illustrating this point. That the waxy pallor of persons suffering from renal disorganisation is dependent on a loss or deficiency of colouring matter is now well known; it has been ascertained that in some cases there has been only one-third the normal quantity. How then is it that anasarca results from this defect? I believe in this way. The phenomena of chlorosis and of hæmorrhage shew that the heart's action is enfeebled by this state of the blood; and as the heart is but a higher development of the vascular tube, an analogous change in action may be expected to take place in the capillaries, and thus passive capillary congestion will be established, and this just in proportion to the depravation of the blood. Of course every organ and tissue that is supplied with

capillaries will, on this theory, be the seat of oedema in renal dropsy; and this I believe is the case in a greater or less degree. We did not examine the brain of the "shambles-man," but all the tissues that we did notice were infiltrated with serum.

I think the presence of albumen in the urine may be partly explained in the same way, but only partly. It is well established that several agents will induce so much functional disturbance of the kidneys, that albumen will pass off with the proper secretion. Extensive injury of the skin has this effect, or any very general interruption of the cutaneous secretion, as for example in extensive burns, or if the skin be coated with dextrine or other preparation capable of interrupting transpiration. It is probably in this way that renal disorder and anasarca supervenes on scarlet fever. Irritants, as lytta or mercury, will bring on albuminuria, so also congestion from inflammatory action, as in the case in which we had the post-mortem examination. A granular or tubercular deposit would doubtless excite inflammation in the kidneys as well as in the lungs or peritoneum, so that there may be albumen in the urine from various causes,—from cutaneous disorder; from some passing irritation of the kidneys; from acute inflammatory action; from chronic inflammation or congestion consequent on a morbid deposit; or from passive congestion of the capillaries dependent on a want of hæmotosin in the blood. The opinion that the albumen is transformed urea is, I think, quite exploded.

The *effusions into the shut sacs* may doubtless in some degree be attributed to the same causes as the anasarca. There are various reasons, however, for thinking that others are in operation. In my regular course of lectures I pointed out the fact that inflammation of the serous membrane was so often coexistent with or consequent on structural disease of the kidneys, as to lead to the opinion that there was the relation between the two of effect and cause. Not long ago we had a patient under care in the dispensary, who had excessive albuminuria, the pathognomonic waxy-pale complexion, oedema of the lower extremities, and some dyspnoea,—so much as a chlorotic patient displays. But from time to time he had violent attacks of hæmaturia, and passed pure blood by the urethra. The blood even coagulated in the urethra, the urine washed away the colouring matter, and the patient drew out from the penis long rolls of fibrin exhibiting a mould of the urethra, and which he imagined to be worms. After several months' illness he was suddenly attacked with dyspnoea, cough, pain in the chest, and febrile symptoms, and shortly died. I did not visit him during his last illness, but I assisted at a post-mortem

examination. We found the heart quite healthy, and the left lung and pleura unaffected, but the right pleura was filled as full as possible with clear yellowish serum. The pressure of the enormous quantity of fluid was so great on the lung that it was compressed into an angular dark-looking structure, no larger than the spleen, and projecting from the vertebral column like a fungus. The kidneys (which you saw) were much hypertrophied, much lobulated, and studded with masses of tubercular matter. Here and there we saw empty cysts surrounded by this matter, and one or two ragged ecchymosed-looking cavities, from which doubtless the blood had flowed. In the intervals of the masses there was no appearance of disease. The deposit presented the appearance of tubercular matter under the microscope; it exhibited some irregularities in form, but Dr. Glover, of Newcastle, (to whom I sent a portion, and who has used the microscope freely in the investigation of scrofula, as shown by his excellent published work,) assures me that it is true tubercular deposit. The hæmorrhage in this case was probably caused by the pressure of the deposit on the blood-vessels of the kidneys, causing congestion and rupture. Now we had some special cause for the effusion specially into the *one* pleura; but all the change we could find in that membrane consisted in two or three indistinct white patches. These *might* be inflammatory, and analogous to similar patches on the heart and pericardium, but it is quite certain the effusion could not be dependent only on passive congestion as in anasarca, or both pleuræ would have been affected as in the two cases mentioned before.

The frequency of inflammation of the pericardium in disease of the kidneys has been well illustrated by Dr. Taylor, formerly of University College, in a very elaborate paper, published in the 28th volume of the Medico-Chirurgical Transactions. I think, however, the origin of the inflammation will be better understood if we bring some general principles to bear on the subject. I have endeavoured to impress upon your mind the necessity of considering the muscular system with its aponeuroses, tendons, articulations, ligaments, bursæ, synovial membranes, &c., as forming one grand whole in conjunction with the serous membranes; and that the bronchi (excluding the mucous membrane) and the vascular system,—or, at least, the inner and middle coat,—together with the dermis proper and the sublying tissue, belonged to the same grand division of structure, and were convertible into each other.

In conformity with this view, serous membrane may become cartilage or bone; dermis may become muscular, or contractile tissue,

as in the scrotum; bone may be developed in muscles, as, for example, in the heart or deltoid muscle; ligaments may become bony structures. Seeing, then, there is a community of primary tissue in these various structures, we may expect a community of morbid action, and in this way we can explain the action of urea circulating with the blood on the serous sacs, not only in granular degeneration of the kidneys, but also in those functional disorders which are followed by the phenomena of gout and rheumatism, and metastatic inflammation of serous membranes. In all you have an excess of urea in the blood; in gout, and perhaps in rheumatism, or, at least, in rheumatic gout, there is urea in the blood from an excessive formation of urea during the transformation of these serous tissues; in structural degeneration of the kidneys there is urea from retention, the excreting function being destroyed. So that the inflammation of the serous sacs and tissues in Bright's disease,—and, I may add, the irritation of them,—inducing muscular pains, hypertrophy of the heart (although the heart is affected also by the want of hæmotosine), and inflammatory effusions into the shut sacs, &c. belong to the same great class of diseases as gouty and rheumatic inflammation, and are subject to the same general considerations. You will take care, however, in applying this general principle, to remember the differences as well as the resemblances. Our patient, the compositor, has been subject to repeated attacks of rheumatic gout; that is to say, from time to time either the kidneys have been functionally disordered so that their ordinary excretion of urea was suspended, or else more urea was formed than could be eliminated. An inflammatory affection of the sero-synovial structures of the smaller joints took place from the irritation of the urea (for the "chalk stones" which form in the fingers and toes of gouty persons are urates), but after a while the functional disorder ceased, and then health followed. At last, however, structural disease supervened on the functional, and you have as a consequence a slow poisoning of the blood by urea, but no return to healthy action in the kidneys; then the hæmotosine gradually disappeared, and *pari passu* the waxy pallor and anasarca increased: and finally, the specific inflammatory action supervened, affecting the shut sacs in preference to the kindred tissues of the joints, but with a less degree of intensity and with greater persistency. In this way, then, we explain the hypertrophy of the heart and the effusion into the pleuræ. We cannot say positively that the hypertrophy did not precede the renal disease, but from the history of the case I infer that it did not.

The sleeplessness, delirium, spectral illusions, and irritability of temper displayed and experienced by the patient, are all distressing symptoms, and depend upon the series of morbid changes already specified; if the urinary secretion be totally suppressed, as in ischuria, (a gouty disorder) coma or convulsions ensue, and these not unfrequently terminate the life of persons with renal dropsy. There is also in addition to the circulation of poisoned blood through the brain, the same condition of the cerebral capillaries, as of the capillaries of other organs, and frequently effusion takes place; in the case under treatment there are no signs of effusion from the meninges of the brain; the morbid condition is probably allied to that in delirium cum tremore, or drunkard's delirium, and is a passive congestion.

The dyspnoea, the heaving of the shoulders, the broken speech, &c., are secondary results of the morbid changes within the thorax, and need no special mention; the lungs are drowned in serum and compressed by it.

I will now say something on the pathology of the renal disorganization our patient is suffering from; and first as to the anatomy. During the last few years, much attention has been devoted to this point, and we have had numerous microscopic researches instituted; the more recent are those of Dr. Johnson, and of Mr. Toynbee, who has worked in conjunction with Dr. Bright; you will find the results of their inquiries in the last volume of the *Medico-Chirurgical Transactions*. Dr. Johnson (confirmed by Mr. Toynbee), thinks the degeneration is fatty, and consists in an exaggeration of the fatty matter which exists naturally in small quantities in the epithelial cells of the healthy organ; consequently, it is precisely analogous to fatty degeneration of the liver. This increase of fat in the epithelial cells of the urinary tubes causes the latter to compress the capillary plexus which surrounds them; hence passive congestion and transudation of the serum of the blood. This mechanical compression is also the cause, Dr. Johnson thinks, of the tortuous, dilated, and varicose condition of the veins and arteries which is often seen on the surface of the kidney; it also ultimately causes atrophy of the kidney, by preventing its due nutrition. Dr. Johnson next inquires how the fat gets here, and notes that fatty degeneration of the liver frequently accompanies the disease; next, that atheromatous or steatomatous degeneration of the arteries is also usual, and a deposit of fat, commencing in the investing membranes of the valves of the heart. But atheromatous and steatomatous deposit are two very different things; the one is fat, the other fat with certain chemical products, as lime and soda; Dr. Johnson seems to confound these two kinds of changes. Dr.

Johnson thinks there is an accumulation of fat in the blood from imperfect vital action, and that it seeks an outlet through the liver and kidney, and is deposited there. All this is very ingenious; for the serum of the blood has a milky appearance, from the presence of a quantity of fat globules; but the theory is not applicable to the dropsy following scarlatina; and although Dr. Johnson tries to get over this difficulty, yet some main points are left untouched by him.

We have, as I have stated, various forms of dropsy connected with renal disease, but in all there is deficiency of hæmatosis; this Dr. Johnson has hardly referred to, yet it is an important pathological change, and closely connected with the renal disease; for a child in perfect health to-day, rosy and chubby as a cherub, experiences a trifling attack of scarlet fever—so trifling, indeed, that it is hardly observed—and in a fortnight is anasarctous and pallid as white wax: what becomes of the hæmotisin in such a case as this? and where is it gone? Then again the urea in the blood is an important pathological element, as I have already shown to you.

You have already gathered from my remarks that the prognosis is bad; nothing, I fear, will save our patient, and nothing will relieve him. We must, however, attempt something, but so as not to make him worse. He has taken opium and other narcotics to procure rest, but with discouraging results, and I do not know that I can prescribe a narcotic or anodyne which will not add to the cerebral congestion, or impair, still more, the excreting power of the kidneys. For several weeks he has been treated *secundum artem* by his former medical attendants, and I have no doubt all the most approved remedies have been tried; I ordered him to take a few minims of the tincture of hydrochloride of iron three or four times a day, thinking that perhaps an addition of some iron to the blood may alleviate the capillary congestion, and so relieve the more urgent symptoms: we are bound to do our best, and I know nothing better, seeing the patient is so weak, and knowing local depletion to have had full and fair trial: he has taken two doses only, as he was attacked this morning with rigors and other pyrexial symptoms.

With regard to the treatment of these dropsical diseases, I have to observe that you must discriminate correctly the nature and causes in each case: if there be inflammatory action, as in scarlatina, or in such a case as that we examined after death, the antiphlogistic treatment is necessary; if such a case as the compositor's, chalybeates, alkaline remedies, minute doses of colchicum, and dietetics, will afford the best chance of recovery.

Original Communications.

CASE OF POISONING BY CANTHARIDES.

By HENRY FISHER, M.D.

Edinburgh.

THE following case of poisoning by cantharides, the outline of which I now forward, came under my notice whilst residing in the neighbourhood of Glasgow about twelve months since. Many circumstances unnecessary to mention have hitherto prevented me from making this case public; but I think it requisite to state that I do not relate the case from memory, but from notes carefully taken at the time the incident occurred.

On the morning of the 29th April, 1846, I was summoned to visit Mr. G., of A—, a gentleman about 26 years of age, and of a somewhat full habit of body. It was stated that he had been seized with sudden illness during the night. I found him labouring under almost incessant vomiting, complaining of urgent thirst, accompanied by burning pain in the mouth, throat, and stomach; the countenance expressive of great anxiety; the tongue swollen, and thickly coated; the pulse 130, weak and tremulous; the matter vomited had a greenish colour and peculiarly offensive odour. From these symptoms I at once inferred that some poisonous or deleterious substance had been swallowed; and, on instituting inquiry as to what had been partaken of previous to the seizure, I learnt that, feeling slightly indisposed the previous evening, he had taken what he imagined to be a dose of jalap. The residue of the drug used was shewn to me, when, instead of being jalap, as supposed, I at once recognised it as the powder of cantharides. I ascertained that two teaspoonfuls of this had been taken with a little water, that vomiting took place shortly afterwards, and recurred at intervals throughout the night. My inquiries now elicited that the calls to micturition were frequent and urgent; that they were always preceded by severe pain at the point of the penis; the passage of the urine was attended with considerable scalding pain, and it was

turbid, and slightly tinged with blood. The patient also complained of dull heavy pain in the lumbar and hypogastric regions, the pain in these parts, as also in the epigastrium, being slightly increased on pressure. There was occasional priapism.

As vomiting had taken place rapidly after the poison had been swallowed, I did not think it necessary to administer an emetic or employ the stomach-pump, but contented myself by encouraging the vomiting with copious draughts of warm water. After some time had elapsed, the matter ejected from the stomach appearing to consist only of the water which was swallowed, and the distressing nausea being perceptibly diminished, I had the patient placed in a bath of the temperature of 96°, in which he remained for twenty minutes; and, on removing him, I administered a quantity of a very strong solution of gum arabic. A little of this was at first rejected, but sufficient was eventually retained, and in about an hour I had the satisfaction of observing a very marked alleviation of the symptoms, the nausea and thirst, as well as the pain in the mouth, throat, and stomach, being much relieved. I directed him to proceed with the gum arabic solution, using it as drink ad libitum when the thirst became urgent, warm fomentations to be applied to the abdomen, and the epigastrium to be rubbed gently at intervals with the tincture of opium. About this time (noon) I was under the necessity of leaving him for the purpose of attending to my other engagements; but, on visiting him again at 8 p.m., I found the urgency of the symptoms rapidly diminishing. He expressed himself as experiencing great relief from the use of the gum arabic solution, of which a very large quantity had been taken, and which I directed him to continue, ordering at the same time the administration of an enema containing *Ol. Ricin.* ʒij. In the evening I found the nausea, thirst, pain in the mouth, throat, and stomach, very greatly relieved; the tongue appeared cleaning; the pulse 92, full and strong. The enema had been returned without much feculent matter intermixed. The calls to micturition were still frequent, and almost invariably attended or preceded by severe pain at the point of the penis; the

urine, passed with pain, was turbid and discoloured, and considerable pain was felt in the lumbar and hypogastric regions. In consequence of these inflammatory symptoms I cupped him briskly in the lumbar regions, withdrawing about sixteen ounces of blood, and afterwards administered a draught containing *Sol. Mur. Morph.* ℥xlvi., by means of which a moderately good night's rest was fortunately procured, he being only twice disturbed by calls to make water, and once by a slight return of the nausea and pain in the stomach, which yielded to the application of warm fomentations. In the morning he was so far recovered as to be able to partake of some light nourishment; and, as the irritability of the stomach appeared to be almost entirely removed, I ordered him to have *Ext. Fluid. Senn.* ʒiiss., which acted briskly on the bowels, bringing away, mixed with feculent matter, a considerable quantity of the cantharides, their shining green particles being easily distinguishable.

From this time he continued rapidly to recover. A light and strictly antiphlogistic regimen was enforced; the use of diluent and emollient remedies, as the *Sol. Gum. Arab.* and linseed-tea, was persevered in; the warm bath and small opiates were occasionally employed, strict attention paid to insure regularity of the bowels by the exhibition of oleaginous enemata and laxatives, and in the course of ten or twelve days the patient was perfectly convalescent.

I conceive that the interest of the above case lies in the fact of such a very large quantity of the poison being taken with such apparent impunity.

Professor Christison, in his valuable work on Poisons, has collected the history of several cases, among which the largest quantity specified as having been swallowed is a drachm, and in this case the patient appears to have made a rather tedious recovery, having for some months laboured under difficulty of swallowing.

As regards the case of Mr. G., he assured me that he had taken at least two tea-spoonfuls; the remaining portion of the powder (which I kept) he asserted was equal to about one half of what he had swallowed; it is still in my possession, weighs forty grains, and appears to be of good quality.

From these facts, and allowing for a little adhering to the side of the vessel in which the patient mixed his dose, I think the quantity of cantharides swallowed may be fairly estimated as having somewhat exceeded a drachm. I am inclined to attribute the fact of this quantity having had so little noxious effect to the fortunate circumstance of the greater part of it having been almost instantly rejected by vomiting; enough, however, being retained to form a well-developed train of the symptoms of poisoning by this substance. The mode of treatment I pursued is that laid down by our best authorities, viz., after the stomach has been evacuated, the use of emollients and diluents, with attention to counteract the inflammatory action in the urinary organs. Of the first class of remedies I certainly give the preference to the gum Arabic solution, as, in addition to its emollient properties, I am inclined to think it may act mechanically by protecting the coats of the stomach, and holding in suspension the poisonous principle of the cantharides.

I may mention that no clue could ever be obtained as to the manner in which the mistake originated, the patient denying all knowledge of the means by which the cantharides came into his possession.

Edinburgh, 27th April, 1847.

STRONGYLES FOUND IN THE CELLULAR MEMBRANE SURROUNDING THE KIDNEY OF A FILLY. BY MR. J. HARVEY, M.R.C.V.S.

AN eleven months old filly had been turned out to grass for a week in an exposed situation, when she was found to stagger as she walked; and, on attempting to move her, she fell down, and could not rise. Great pain was evinced on pressure being applied along the lumbar region, and more particularly over the right kidney. She had lost all power of supporting herself on the hind legs. The symptoms continuing, the animal was destroyed in a week. The viscera were found healthy, excepting the right kidney, which was increased in size: its vessels were in a highly congested state, and embedded in the membranous matter with which this kidney was surrounded were at least two hundred small worms. The editors state that the specimens of these worms sent to them by Mr. Harvey "appear to belong to the strongyles."—*Veterinary Record*.

A NEW ARRANGEMENT OF THE BLOOD-VESSELS.

By JOHN JACKSON, Esq.
Melton Mowbray.

I. HEPATIC VASCULAR SYSTEM.

1. *Hepatic afferent vessel*.—The venous portion of the spleen, and the splenic and portal vein and its ramifications in the liver.

2. *Hepatic capillaries*.—The minute blood-vessels intermediate between the terminal branches of the hepatic afferent vessel, and the primary roots of the hepatic efferent vessels.

3. *Hepatic efferent vessels*.—The hepatic veins.

II.—PULMONIC VASCULAR SYSTEM.

1. *Pulmonic afferent vessel*.—The right auricle and ventricle, and the pulmonary artery and its ramifications.

2. *Pulmonic capillaries*.—The minute blood-vessels intermediate between the terminal branches of the pulmonic afferent vessel, and the primary roots of the pulmonic efferent vessels.

3. *Pulmonic efferent vessels*.—The pulmonary veins.

III.—SYSTEMIC VASCULAR SYSTEM.

1. *Systemic afferent vessel*.—The left auricle and ventricle, and the aorta and its ramifications.

2. *Systemic capillaries*.—The minute blood-vessels intermediate (1) between the terminal branches of the splenic artery and the primary roots of the hepatic afferent vessel, and (2) between the terminal branches of the hepatic artery and the terminal branches of the hepatic afferent vessel, and (3) between the terminal branches of the systemic afferent vessel generally, and the primary roots of the systemic efferent vessels.

3. *Systemic efferent vessels*.—(1) The gastro-intestinal veins (which terminate in the middle of the trunk of the hepatic afferent vessel), and (2) the superior and inferior venæ cavæ and the coronary vein.

The *hepatic afferent vessel* consists of a spleen and vein: the *pulmonic afferent vessel* consists of a heart and artery: and the *systemic afferent vessel* also consists of a heart and artery.

The pulmonic afferent vessel causes a constant and rapid motion of the

blood through the pulmonic capillaries: and the systemic afferent vessel causes a *constant* and *rapid* motion of the blood through the systemic capillaries. *What kind of motion* of the blood does the hepatic afferent vessel cause through the hepatic capillaries? It must cause some kind of motion. It can never be true that of the three afferent vessels two cause motion of blood, and one not. Nor can it be true that an afferent vessel, consisting of a spleen and vein, can cause the same kind of motion of blood as an afferent vessel consisting of a heart and artery. If, then, the hepatic afferent vessel does propel the blood through the hepatic capillaries, and not, as is commonly supposed, the systemic afferent vessel; and if it cannot cause either a *constant* or *rapid* motion, it must of necessity cause an *intermittent* and *slow* motion. The question therefore is, whether the hepatic afferent vessel, consisting of a spleen and vein, is as perfectly adapted for effecting an intermittent and slow motion of the blood through the hepatic capillaries, as either the pulmonic or systemic afferent vessel, consisting of a heart and artery, is for effecting a constant and rapid motion of the blood through the pulmonic or systemic capillaries? If it is, the enigma is solved; and *heart and spleen, and artery and vein, are anatomical antitheses*. But it may be said, it is only the venous portion of the spleen which is the root or commencement of the hepatic afferent vessel. What is the splenic artery for? and the splenic capillaries? The splenic artery by dividing and subdividing, and ultimately splitting up into hairlike tubes or vessels, forms the splenic capillaries; and these splenic capillaries simply *furnish points of origin* for the roots of the hepatic afferent vessel. These venous roots, the true spleen, could not originate from *nothing*; and, moreover, they could not originate from *anything else* than capillaries, and how could there be any splenic capillaries if there were no splenic artery? Venous roots only were wanted, but capillaries were necessary for them to originate from, and an artery was necessary out of which to make those capillaries. If there were no splenic artery there could be no splenic ca-

pillaries; no splenic capillaries, no splenic veins; no splenic veins or spleen, no roots or commencement of the hepatic afferent vessel; no roots or commencement, no trunk and no branches; no hepatic afferent vessel, no hepatic vascular system; no hepatic vascular system, no pulmonic vascular system; no pulmonic, no systemic; no vascular system, no motion of blood; no motion of blood, no life! See, then, the utility and importance of the splenic artery! From its capillary terminations springs the hepatic afferent vessel, the first link in the great vascular chain! And why is it so large an artery? Because a large number of venous roots could not originate from a small number of capillaries, nor a large number of capillaries proceed from a small-sized artery. Why is it so tortuous? Why is not the splenic artery straight, like the renal arteries? Because it is not the *blood* that is wanted, but the *blood-vessel*; and the tortuosity of the artery has the effect of minimising the quantity of blood that passes through it.

Intimately connected with the physiology of the hepatic afferent vessel is the question—What becomes of the food eaten, and the fluids drunk, after they have been received by the alimentary tube? In other words, through what vessel, and into what vessel, do the fluids pass, and likewise the solids after they have undergone fluidification or digestion? Are they both imbibed by the gastro-intestinal capillaries, and then transmitted by the gastro-intestinal veins into the middle of the hepatic afferent vessel; or are they both imbibed by the lacteals, and transmitted by the thoracic duct into the left subclavian vein? Or do the fluids drunk take the former course, and the solids eaten, the latter?

If, before birth, the vessel which conveys the material of nourishment and growth to the foetus, the umbilical vein, instead of going to the liver and terminating in the hepatic capillaries like the *permanent* hepatic afferent vessel, had gone behind the liver, and, like the thoracic duct running along the spine, had ultimately terminated in the left subclavian vein; and if, in addition to this, the thoracic duct of the adult, instead of being so much less, had been very considerably larger than the umbilical vein of the foetus, I

would not then presume to call in question the truth of the prevailing opinion, that after birth the lacteals and thoracic duct convey the materiel of nourishment and growth from the alimentary tube into the left subclavian vein. But as such is not the anatomical disposition of the umbilical vein and thoracic duct, I venture to take a totally different view. I maintain that the *fluids* drunk, and the *solids* eaten, are both imbibed; the former rapidly and the latter slowly, and not until they have become fluidified by the gastro-intestinal capillaries: that they then pass through the gastro-intestinal veins into the middle of the trunk of the hepatic afferent vessel: and that the hepatic afferent vessel being contractile as well as distensible throughout (*i. e.* in its roots, trunk, and branches) propels them with an intermittent and slow motion through the hepatic capillaries. I hold, therefore, that the materials of which the blood is formed, *or*, as I may now say, the blood itself, *passes first*, through the hepatic system; *secondly*, through the pulmonic system; and *thirdly*, through the systemic system. From the systemic system a small portion finds its way back again into the hepatic afferent vessel, *i. e.* into its extreme roots, by the splenic artery, into its extreme branches by the hepatic artery, and into the middle of its trunk by the gastro-intestinal veins; but by far the larger portion passes by the superior and inferior cavæ, again into the pulmonic afferent vessel, and so through the pulmonic and systemic systems alternately, and for an indefinite number of times; that is, until its component particles are either deposited in some tissue, or eliminated in some secretion.

April 1847.

COFFEE IN POISONING BY ACETATE OF MORPHIA.

A PATIENT swallowed at one dose *few grains* and three quarters of acetate of morphia. Tartar emetic was immediately given, but without producing vomiting. About three hours after the accident, and while the patient was in a state of deep coma, a highly concentrated solution of coffee with the solid residue was given to him. The patient swallowed about ten ounces in twelve hours. The coma disappeared, and he perfectly recovered.—*Gaz. Médicale*, Mai 1.

ON UNCOMMON FORMS OF ABSCESS IN CHILDREN.

By G. A. REES, M.D., Lond.

In the report of a meeting of the London Medical Society, in one of your late numbers, mention is made of a case of swelling in the nose of a child of five years of age, under the care of Mr. Linnekar, which struck me as possessing much interest, from the infrequency of the affection.

The swelling assumed many of the appearances of polypus, but was evidently attached to the septum nasi, and from the suddenly favourable issue of the case I should consider that it was abscess of the septum discharging posteriorly, the matter finding its way into the pharynx. Abscesses in this situation I have met with very rarely, but have noticed them in a treatise I published some years since as coming on after low fever, and from the swelling produced having at first sight a very formidable appearance; in one instance I have seen such abscess followed by necrosis of a portion of the cartilage.

As a general rule, indeed, one should regard with much suspicion any growth connected with the septum nasi: simple benign polypus I have never seen attached there, but malignant growths more than once; the surgeon will do well to interfere as little as possible with adventitious deposits in such a situation. "Nunc tu caveto Romanum."

The infiltration of the submucous tissue of the nostrils in children, is mentioned by Sir Astley Cooper, and its striking resemblance to polypus; he recommends it to be touched with nitrate of silver, but I have found a strong solution of alum more useful, and, at times, at once successful; in other instances the cure is not so prompt. The affection occurs in children with a strumous diathesis, and if their residence be in a damp situation it will be far more difficult to get rid of the swelling. The last case I attended occurred in a child residing close to the Regent's Canal, and the morbid condition of the mucous membrane continued for months, in spite of all local applications, and though attended

to with great solicitude by the parents, until the patient was removed to a healthy and dry situation, when it rapidly disappeared.

There are two other forms of abscess, occurring, though rarely, in infants, which I have not seen mentioned,—abscess of the antrum, and abscess of the hip, unconnected with hip joint disease. Abscess of the antrum I have only met with twice; it occurred, in both instances, in young infants, born with the face towards the pubis: I believe it was the pressure of the arch of the pubis on the face in parturition which gave rise to the mischief, having seen the mark of the arch on the face of other infants (similarly circumstanced, but where no evil consequences followed) on each cheek: the following imperfect sketch will shew that these are not always trifling cases.

S. R., aged two weeks, brought to the dispensary with very considerable swelling and inflammation of the left cheek, the redness extending round the eyelid, and just below the eye an appearance of pointing; the swelling is deep seated, implicating the floor of the orbit, so that the eye is protruded to such an extent that the eyelids are incapable of closing over it; the conjunctiva is inflamed, and chemosis present; on opening the mouth, the left side of the palate is observed to be depressed, so as to form a tumor on that side descending below the alveolar ridge; along the dental seam, ulceration has occurred, and one of the rudimentary molar teeth is apparent. As the nature of the case was evident, I extracted the rudimentary tooth and thrust a director upwards, which easily found its way into the antrum, its entrance being followed by an inconsiderable discharge of thick matter.

On the following day, the abscess near the inner canthus of the eye being on the point of bursting, I lanced it: the opening in the mouth is filled with a little thick curdy matter, and does not seem to have discharged; the swelling of the face and eye little if at all diminished. I therefore injected warm water into the antrum, which came out on the cheek; this was followed by copious discharge of matter, and from that time the case rapidly improved; the swelling gradually subsided: the openings on the cheek and

in the mouth remained fistulous for some weeks, but finally closed of themselves, and the infant was cured.

Abscess of the hip is not a less troublesome case; I have seen as many as five examples, four of which occurred in infants under two years of age. The extreme pain, the short cry uttered when the patient is moved, and the anxious expression of countenance, led me, in two cases, at first to suppose cerebral disorder was present, until swelling over the gluteal region directed attention to the real seat of the disease. The matter in these cases is bound down by the fascia lata, and, unless early discharged by incision, burrows round and arrives at the front of the joint, causing considerable swelling round the joint, with great agony and constitutional disorder to the infant. The treatment I have adopted is to lance the abscess behind, and with a director carefully enlarge the incision in the fascia, which can be felt at the bottom of the wound, preventing the free exit of the contents of the abscess: this plan has always succeeded, but it has taken some time to effect a cure, and it is sometimes necessary to re-open the abscess.

5, Artillery Place, Finsbury Square,
April 26th, 1847.

RUPTURE OF THE UTERUS—RECOVERY.

Two instances of recovery after rupture of the uterus are recorded; the one by Dr. Williamson, the other by M. Robiquet. In the first case the feet of the child presented, one of which, during a violent pain, perforated the lower segment of the uterus, about an inch from the edge of the os. Immediate suppression of the uterine action followed the accident, but the foot being returned, labour was completed by the natural powers. The absence of bad symptoms in this case might be in some measure accounted for by the comparative slightness of the injury. In M. Robiquet's patient, the uterus gave way spontaneously after about twenty-four hours of tedious but not severe labour, and no very grave symptoms succeeded the occurrence. After the delivery of the child, which was effected by the forceps, a portion of omentum and a coil of small intestine prolapsed at the vulva. Soon after their return, however, the uterus contracted well, no bad symptom supervened, and on the 17th day the patient was quite convalescent.—*Dr. West's Report on Midwifery*, 1846-47.

MEDICAL GAZETTE.

FRIDAY, MAY 14, 1847.

THE subject of the importation of fever from Ireland has at length attracted the serious attention of Government. In our last number we announced that from the vast immigration of paupers, many of them in an advanced state of fever, a kind of quarantine had been established at Liverpool. It is a matter of surprise, considering the great attention which has been recently given to the subject of sanitary reform, that steps had not been taken at an earlier period to prevent the diffusion of a pestilence through a town, the high rate of mortality in which had already been adduced as a strong argument for legislation; but, like most questions of medical police in England, the matter has been allowed to adjust itself; and, as we learn from a petition recently presented to Parliament, at a very heavy sacrifice of human life!

It appears from official documents that since the 15th of January there have arrived in Liverpool no less than 180,000 Irish paupers; some of these had emigrated to various parts of the country, but about 80,000 still remained in addition to the ordinary population. The petition lately addressed to the House of Commons informs us that

"Some of the immigrants come over in a state of actual infectious disease, and a large number of them so predisposed to it that they fall sick shortly after their arrival, and so spread and propagate disease and death among an otherwise healthy population. That the consequences are most disastrous and alarming to the people, — dysentery, diarrhoea, small-pox, and typhus abound. Three of the relieving officers have already died of typhus fever, and two now lie dangerously ill; one of the medical officers is dead,

and another is ill; one of the nurses of the Lying-in Hospital is dead, and another ill. No less than 654 paupers have been buried in the work-house cemetery within the last month, the average number of interments during the last twelve years being only 1,367 annually; so that *in one month the interments have nearly equalled half the number they usually amount to in one whole year.* That your petitioners deplore the miseries of the Irish poor, and are ready and anxious, by every means in their power, to relieve those miseries, and are of opinion that the inhabitants of Liverpool have exhibited a noble and generous sympathy in behalf of their suffering fellow-subjects. But while they are most anxious to extend justice and charity to Ireland, they conceive that they are entitled to demand justice and charity for the parishioners of Liverpool, whom they represent, and for themselves; and with every the most sincere wish that the distressed pauper Irish should be relieved, humbly and earnestly petition that they may be relieved *at home*, and prevented from spreading sickness and death, and the moral contagion of degrading mendicancy amongst the towns and villages of England."

The partial remedy tardily adopted by the Government has consisted in assigning *two ships* stationed in the Mersey as lazarettoes! An officer is empowered to board every steamer or vessel arriving with deck passengers from Ireland; and if any be found suffering under disease, the yellow flag is hoisted, the vessel inspected by a medical officer, and those passengers who are labouring under fever are to be consigned to the hospital ships.

It is so far satisfactory to find that an attempt has thus been made to put some slight check upon this wholesale importation of a pestilential disease into a town already admitted to be in the worst possible condition so far as regards sanitary regulations; but the inquiry naturally suggests itself, why should this influx of diseased paupers have been allowed to continue for four months, at the rate of 45,000 per

month, and why is not a check placed to the exportation of these unfortunate beings from the seaport towns of Ireland? The *two* ships in the Mersey are soon likely to be overcrowded with the sick, and thereby to add to the fatality of the disease. In the meantime, the only measure proposed by Government for attacking the root of the evil is the threat that *if* the owners of the vessels persisted in the practice of bringing over fever passengers, the vessels themselves would be placed in quarantine for a limited period. As the practice has already gone on to an alarming and most disgraceful extent, in spite of remonstrances from the corporation of Liverpool, we think it would be only a proper punishment, without further notice, to place in quarantine the first vessel that brought over any deck passengers labouring under fever; in such a case *ifs* may be very well dispensed with, and one example would do more than any threat of prospective punishment.

In a country which boasts of its laws being so well adjusted that there is "no wrong without a remedy," and that from the overabundance of protection afforded to each individual by the law, no man is justified in taking it into his own hands, and applying a remedy for a grievance in his own way, it is reasonable to expect that there should be some easy, cheap, and certain method of preventing one town from relieving itself of pauperism and disease, at the expense of the health of another town already crowded with a large pauper population. It appears, however, that this, so far as Ireland is concerned, is a Utopian notion. A wrong is done, and it turns out that there is no remedy. We have it on the admission of the Home Minister in his place in Parliament. Sir G. Grey states that—

"Three weeks ago he had received

a notice from Liverpool, that from 250 to 300 Irish passengers who were rescued from an emigrant ship and taken to Wexford were forwarded to Liverpool by a public subscription on the part of the inhabitants of Wexford, the Mayor of Wexford "*recommending these parties to the justice and mercy of the inhabitants of Liverpool.*" (Much laughter.) An inquiry had been addressed to him (Sir G. Grey) to know whether the inhabitants of Liverpool had a legal remedy against the authorities of Wexford. He replied, that the proceeding was not against any law that he knew of; and that the only remedy was by a law which should facilitate the removal of such destitute persons back to Ireland."

It further appears from the Liverpool petition, that 130 of these persons thus imported by "public subscription," and under the authority of her Majesty's representative (!) the Mayor of Wexford, became immediately chargeable to the inhabitants of Liverpool, and demanded and received parochial relief. As usual the new Act of Parliament intended to meet such cases of gross cruelty, inhumanity, and injustice (8 and 9 Victoria, c. 117), is found to be totally ineffective for the purpose. The process of obtaining redress is of so complicated and expensive a kind, that there might as well be no law at all. Indeed, the local magistrates consider that it is better to bear the enormous evil, than to attempt to obtain legal redress. To put the matter in a proper light, we have only to consider that the Mayors of Liverpool, Manchester, and other populous towns, had drained off their pauper population, diseased and healthy, and had contrived by public subscription to import them at a cheap rate into the metropolis, recommending them in mere mockery to "the justice and mercy of the inhabitants!" In what way would the case be dealt with? If such a disgraceful proceeding was not in violation of any law, we think that one would speedily be enacted to meet

it. An offer to the London parishes of *two ships* at the Isle of Dogs, and a proposition to erect on Wimbledon Common or Blackheath "*tents*" in which the emigrants would have a better chance of escaping disease," would be considered a somewhat ridiculous mode of dealing with a gross evil of this description; yet, so far as we can understand the *poco curante* statement made on the part of the Government, this is all the protection which Liverpool can at present expect to receive against the inhumanity and injustice of the inhabitants and mayor of Wexford and other Irish towns. In our view, the inhabitants of the metropolis would decline the "*ships and the tents*," and require that not only should an immediate stop be put to the further importation of diseased paupers, but that they should be indemnified for the expense which had been thus unjustly thrown upon them!

The injury likely to result from this practice, is not confined to Liverpool. The Home Minister admits that 100,000 of the immigrants have spread themselves over the whole country, many of them probably in a diseased condition, and leading to the diffusion of a pestilence at a season of the year when its attacks are likely to assume an aggravated character. If the saying "*Salus populi suprema lex*" be true, why is such an evil allowed to exist, or rather why are not the most energetic measures immediately taken for its repression? A practice which would not be tolerated between two English counties, parishes, or towns, should not be allowed to continue between the Irish and English seaports. The loan of "*ships and tents*" can only be regarded as a temporary relief. The evil should at

once be dealt with as if it were a question between the inhabitants of the metropolis and a provincial town; and admitting it to be true that there is no law adequate to its prevention, the amount of injury already done not merely in a pecuniary but in a sanitary point of view, is sufficient to justify immediate legislative interference.

ON THE CHARACTERS OF THE BLOOD IN CANCEROUS DISEASES. BY DR. HELLER.

IN a former number of the Medical Gazette* were published some observations by Dr. Heller on the chemical and microscopic characters of the blood in cancerous affections of the uterus. The substance of these observations went to shew among other points that in such diseases there is invariably an absolute and relative increase in the amount of fibrin in the blood, and a considerable diminution in the quantity of blood-corpuscles. Dr. Heller has recently investigated the subject further, with the view of determining whether similar changes in composition are undergone by the blood in cancerous affections of other organs as well as of the uterus. He examined portions of blood drawn from a woman affected with hard cancer of the breast; from another woman who had malignant ulcers on the head and neck, and malignant deposit in various parts of the body as shewn after death: and from a man affected with cancer of the lip. The analysis of these three kinds of blood shewed that in each case there was a similar increase in the quantity of fibrin, and a similar diminution in the quantity of blood-corpuscles, as was found to exist in the case of malignant affections of the uterus.

There was an equally close resemblance also in the microscopical characters of the blood in these two sets of cases; with the exception, however, that in the present cases there were observed none of those crystalline shining particles which were described in the former paper. These particles Dr. Heller now believes to be composed of fat. He has found them also in blood drawn from patients suffering from other than these malignant affections of the uterus, especially puerperal phlebitis: with regard to the large colourless cells which he found in the blood both in the present and the former series of cases, and which he formerly regarded as true cancer-cells, he is now disposed to consider these merely as the pale corpuscles of the blood altered by the action of the water employed in the process necessary to demonstrate their existence."—*Heller's Archiv.* 1846.

* "An offer had been made, however, of tents, if places could be found outside the town where they could be fixed, and in which the emigrants would have a better chance of escaping disease."—*Mr G. Grey's Speech.*

* Vol. xxxviii. p. 771.

Reviews.

Thoughts on the Nature and Treatment of Several Severe Diseases of the Human Body. By EDWARD J. SEYMOUR, M.D. F.R.S. late Physician to St. George's Hospital. In two Volumes. Vol. I. 8vo. pp. 260. London: Longman and Co. 1841.

DR. SEYMOUR'S "Thoughts" afford a very favourable specimen of a class of highly useful and practical works which have of late years emanated in considerable numbers from the older members of our profession. This class of writers have very justly considered that it becomes almost a matter of sacred obligation to every man, who by research and experience has acquired an enlarged knowledge of the nature and treatment of disease, to communicate his observations to the profession generally, stating the facts as briefly as possible, without being guilty of the culpable pedantry of essaying to render a few plain truths the basis of an elaborate treatise.

The contents of the present volume consist of four essays, amplified from clinical lectures, which were delivered some time since by the author at St. George's Hospital. The subjects treated of in these papers are Diseases of the Stomach; Gout; Mental Derangement; and Sciatica. In considering these subjects Dr. Seymour has directed his observations more especially to the treatment of the diseases in question—rarely extending his remarks on their pathology further than was necessary to afford a practical insight into their true nature: this circumstance will not be found to detract in any way from the usefulness of the work. At the present time, when pathology is in the ascendant, and forms the subject of about nine-tenths of the majority of new medical works, it is really quite refreshing to meet with a book which is principally devoted to the art of mitigating pain and prolonging life.

Among other subjects worthy of attention, the first chapter contains some useful remarks on that unfortunately somewhat prevalent and most appalling disease—simple ulceration of

the stomach going on to perforation. In these cases Dr. Seymour has observed that, previously to the fatal seizure, the patient has long felt pain after eating, without the usual symptoms of the presence of acidity; at one time one species of aliment, at other times another, seems to aggravate the symptoms. Solid meat is generally felt to be most distressing; and the state of emptiness is that accompanied with the least pain. These and other symptoms are doubtless to a greater or less degree present in nearly all those cases of perforating ulcer of the stomach which ultimately proves the cause of a rapid dissolution; still it is certain that in many instances of this kind, the early progress of the disease has not been marked with symptoms of sufficient severity to excite much alarm either in the patients or their friends, or to appear to call for recourse to medical aid, and we know of no point in medical investigation which at present stands more in need of careful and precise investigation than the diagnosis and treatment of this formidable disease in its earlier stages. With regard to the latter subject, Dr. Seymour observes:—

"In the treatment of such cases, when there is real reason to suspect so serious a disease, soothing remedies seem to be indicated. The bowels should be carefully kept open by enemata, so as to prevent any acrid medicine coming in contact with the ulcer; and occasional blisters to the epigastrium may be expected to be useful. Where the existence of the complaint is more clear, from the preceding pain and the subsequent vomiting of blood, a case which I have frequently seen, I know of no remedy so uniformly successful as the oil of turpentine taken internally. Whether in the Seaman's Hospital, to which I was physician in 1827, or in St. George's Hospital during eighteen years' most assiduous duty, or in private practice, I have never seen a case which did not recover for the time being from" [under ?] "this practice. In three cases where the patients had suffered from this disease, and the hæmorrhage had entirely ceased under the use of the oil of turpentine, healed ulcers into which small branches of arteries could be traced, were observed in the surface, I believe in all, on the posterior surface of the stomach; but in a great many more cases where the patients are still living after the lapse of several years, and where, of course, the cure cannot be proved, the disease gave way

to the use of oil of turpentine. Not only were large quantities of blood vomited in such cases, but large quantities passed half digested from the bowels, under the form of thick matter, resembling soot in appearance. I do not remember to have witnessed a single case in which this treatment has failed; and, notwithstanding that the medicine is very nauseous, it rarely happens that it is rejected by vomiting."

Dr. Seymour adds, that hæmatemesia may, of course, arise from other causes of ulceration than that referred to above, and that it may also occur quite independently of ulceration of the stomach. He believes that there is no preponderating difference in either sex as to predisposition to this terrible disease. It does not always happen that death immediately follows perforation of the stomach. In two cases which occurred to the author in St. George's Hospital, one survived the perforation five months, and another twelve days, after the most violent symptoms of peritoneal inflammation. In a case lately published by Dr. Hughes and Mr. Hilton,* and which was treated by the former gentleman in Guy's Hospital, the patient was restored to health after manifest symptoms of extravasation into the peritoneal cavity had displayed themselves: some months afterwards, an indiscretion in diet produced a return of the dangerous symptoms, and death speedily ensued. Examination revealed the presence of two ulcers in the smaller curvature of the stomach, the one cicatrized, the other forming a complete perforation through the coats of the viscus. We think that Dr. Seymour has not dwelt sufficiently on the treatment of this disease subsequently to the occurrence of extravasation; the case of Dr. Hughes, and others related by Dr. Stokes, leave great room for believing that, even at this period, the disease is, at least in a certain proportion of cases, amenable to treatment. The use of opium, with cautious avoidance of the use of either fluid or solid food for as long a period as possible, appear to be the principal indications. In collecting his statistical information on the subject of this important and mysterious disease, the author appears to have entirely overlooked the interesting collection of

cases which was published a year or two back by Mr. Crisp.

The chapter under consideration has principally reference to those organic diseases and deranged conditions of the stomach which are attended with vomiting. The following fact may have hitherto escaped the notice of some of our less experienced readers.

"Vomiting is a prominent symptom in some cases of phthisis pulmonalis; nay, in some rare instances I have seen it so severe as to draw the patient's attention and that of his friends entirely away from the real disease. Vomiting in phthisis pulmonalis, occurring almost always after coughing, if it arise early in the disease, is the proof of a severe and rapid form of it; if late, it betokens that large collections of matter are locked up in the lungs, that is, have not yet found an outlet through the larger branches of the bronchi."

The author refers to cases of the disease formerly called "passio iliaca," in which the whole peristaltic action of the intestines is inverted, and in which there is constant vomiting, proceeding to so great an extent that ultimately formed fæces are ejected from the stomach. He appears to consider that in these cases the chief indication of treatment is to endeavour to determine the peristaltic action of the intestines downwards. In a severe case of this kind related by the author, and in which bleeding, together with all the usual remedies to relieve sickness, had entirely failed, two grains of calomel, made up with a grain of the soft and recent extract of opium (without gum) into the smallest pill possible, were given, and, when the spasm or endeavour to vomit returned, the patient was obliged, or rather forced, to take half a bottle of soda-water in a state of active effervescence. The expansibility of the gas, and the downward impression in swallowing, had the desired effect, and no more sickness ensued. The patient recovered.

Dr. Seymour appears to be convinced that the iliac passion is a real disease quite distinct from intussusception, &c. We are, however, by no means convinced that these cases are by any means of so simple a nature as the author supposes: it is difficult to believe that symptoms of so extremely severe a nature as those which characterise the iliac passion should be determined by any other cause than a severe obstruction existing in some

* Guy's Hospital Reports for 1846.

part of the intestinal tube; and the cases of this kind which have been recorded have always appeared to us to be closely similar to those in which a portion of intestine which has become intussuscepted or entangled between peritoneal adhesions, is disengaged before the symptoms of general peritonitis have become established.

The author gives some useful suggestions on the treatment of the less severe form of cholera which prevails at certain periods of the year in our own and in many others of the northern climates.

"In what used to be called cholera, and is by some now called cholérine, which occurs in the height of summer from sudden chill, improper food, or travelling, the vomiting is of bile, or matters strongly tinged with bile, accompanied with dejections of a similar nature. Here almost always the mixture of three grains of calomel with a grain of opium will arrest the disease. When I resided on the Continent, very few families travelling in the heat of summer, and exposed to some of the causes just enumerated, escaped suffering from this disease. Retiring to bed apparently well, the patient is roused by constant and irrepressible sickness, with or without diarrhoea, almost always with some degree of looseness of the bowels. If a pill of three grains of calomel and one of opium be taken immediately, and repeated in six hours, it rarely happens that the patient is unable to proceed on his journey. When able to stay a day or two, the traveller should take every morning a small quantity of neutral salts in water, and use the warm bath. This I have seen occur so often that I cannot doubt the efficacy of the plan. * * * For many years I have been in the habit of giving this prescription to friends of mine or members of my family on foreign tours, and very often they have had occasion for its use: never has any evil resulted, nor has it failed in its efficacy in a single instance."

The chapter on Gout commences with a rather elaborate account of the various hypotheses which have been entertained from the earliest period respecting the true causes and nature of that disease. The author is inclined to think that the malady is occasioned by the blood being more highly animalized and filled with noxious particles, which are thrown off by inflammation of the extremities, termed gout, when no longer to be borne; and he conceives that the fact of the transmission of gout from the father to the

children is explicable "by the tainting or over-nutrition (different terms for the same thing) of the blood, which may be communicated in a less degree to the organisation of the child"—a doctrine which will certainly not be received (if it is to be taken in its literal sense) by those pathologists who argue that every confirmed fault in the fluids of the body depends upon some disease or defect in the secretory or excretory viscera. In this chapter Dr. Seymour has given a copious description of the history and uses of the various medicines and plans of treatment which have been found useful in the management of gout. We can only devote space to his remarks on the employment of a somewhat new remedy which has been recommended on chemical principles by Mr. Ure—the benzoate of ammonia, or potash.

"I have used this medicine repeatedly in practice, in cases in which the small joints were red, swelled, and painful, or where fluid matter was deposited in the joint of the great toe soon after the paroxysm commenced, and also in cases where the lithate of soda existed in the joints of the fingers and superficially immediately under the cuticle on the surface of the lower extremities; and my impression certainly is, that it is decidedly useful. It is my impression that the early depositions have been arrested in their progress, and large depositions diminished by the continued use of this medicine. It is a decided diuretic, acting in some cases of dropsy fully and freely, and is especially adapted to those cases where constant nausea and occasional vomiting render the use of many medicines in the class of diuretics impracticable, and also, where diarrhoea exists, forbid the employment of saline diuretics.

"Also I have repeatedly seen, by experiment at the hospital, that in dropsy with albuminous urine the albumen is greatly diminished under the use of the benzoate of ammonia. What is a recommendation also to its use in many of the cases mentioned above is, that it is not disagreeable to the taste."

We apprehend that Dr. Seymour would not employ this diuretic indiscriminately in all cases of dropsy with albuminous urine. We do not doubt its efficacy in a certain proportion of the chronic cases, but consider its use extremely hazardous where there is either inflammation or recent congestion of the kidneys.

The third chapter on "Mental De-

rangement" contains many sensible and useful arguments and suggestions. The author appears to be disposed to employ a combination of medical and moral treatment in the management of the insane, arguing that the latter system has been of late too exclusively followed. He very justly contends, that, although in a large proportion of cases the functions of perception and volition may be greatly excited or as greatly impaired without the necessary co-existence of disease of the brain, still such derangements of the mental faculties, if long allowed to proceed uncontrolled, are of course liable to produce serious deterioration of the brain. He insists very strongly on the benefit which he has effected in certain cases of melancholia, severe hypochondriasis, insanity arising after parturition, melancholy madness connected with derangement of the uterine system, &c. from the continued use of from a quarter to half a grain of acetate of morphia at bed-time: this treatment "must be repeated without the *intermission* of a single night for several weeks in mild cases, for at least three months in the most severe ones."

The fourth and last chapter of this volume contains many useful remarks on the treatment of the various forms of Sciatica. Dr. Seymour is inclined to believe with Cotunnus that one of the most severe and intractable forms of this disease arises principally from the effusion of fluid into the sheath of the nerve, and he very strongly advocates the value of acupuncture in these cases, believing that the benefit which is produced by this operation arises from "setting free the fluid contained in the sheath of the nerve." He states that the most remarkable relief which he has ever witnessed in any disease has been in severe sciatica, not referable to constitutional causes, from the use of this operation, which is to be performed as follows:—

"The patient lies on his stomach, and six pairs of very fine needles, made for the purpose, are carefully inserted at the distance, one pair from the other, of one-fourth or one-sixth of an inch in the course of the nerve. This is done slowly, and gives little pain. The operation requires much nicety, and should be done with great care. I attribute several failures to this want of manipulation."

Upon the whole, Dr. Seymour's

work presents many valuable features and few blemishes. There is an occasional error in the construction of sentences—such as "leeches were applied to the principal pain and swelling of the hip;" "the nature of this acid has been stated to be lactic acid;" and here and there we meet with an ill-turned expression, such as "a low grumbling pain," "disease of the organ of the heart." Still errors of this kind are, only too common in the ordinary run of medical writings; and we think, that upon better acquaintance with the merits of this volume the profession will join us in anticipating with pleasure the appearance of the concluding portion of the work.

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The Surgeon's Vade-mecum. By ROBERT DRUIT, M.R.C.S. 4th Edit. Renshaw; Churchill. 1847.

THIS is a fourth and considerably enlarged edition of an exceedingly useful and practical manual, which has for several years occupied a high rank amongst the standard works on surgery. The rapidity with which the present edition has followed the last speaks largely in proof of the utility of the work, and of the estimation in which its contents are held. The author appears to be fully alive to the rapid progress which the art of surgery, in common with all the other branches of medical science, is daily making, for we recognise in the present volume a careful examination of many of the important subjects, especially in the more pathological parts of surgery, which have recently occupied the attention of some of our best observers. With regard to one of these subjects, however, we feel it necessary to caution our readers against the too ready assumption of a theory which, in explanation of a particular disease, the pathology of which has been hitherto most obscure, is at once simple and plausible. We allude to the recently advanced hypothesis which explains the peculiar alteration of structure undergone by the kidneys in Bright's disease, by regarding it as essentially and primarily the result of a fatty degeneration of the tissues of these organs. The subject has received considerable attention of late; and, although it is quite true that in certain forms and stages of the disease the

presence of an abnormal proportion of fat in the tissues of the kidney is occasionally found (as was observed some years ago), yet it is equally true that in most of the kidneys examined in the more advanced stages of the disease the quantity of fat found is by no means remarkable, whilst in all well-marked specimens there is found an abundance of other morbid material, which is, for the most part, of an albuminous or fibrinous, and therefore probably of a more or less inflammatory nature. We mention this caution, lest it be erroneously supposed that the true explanation of the pathology of this disease is such as we find set down in the manual under notice, and lest a plan of treatment in exact accordance with such theory should be adopted. The subject does not strictly come within the proper range of surgery, yet it has by some means found its way into the present work, and therefore requires to be noticed.

The contents of the book are illustrated by an increased number of well-executed and very effective wood-cuts, the majority of which are excellent.

The reputation of the work is too well and deservedly established to require a fuller meed of praise than we have awarded to it; and we feel confident that the present edition will meet with as much encouragement and success as its predecessors have done.

Proceedings of Societies.

SOUTH LONDON MEDICAL SOCIETY.

April 29th, 1847.

C. WATERWORTH, ESQ. IN THE CHAIR.

THE discussion on Dr. Gull's paper on Ether (an abstract of which is given in the GAZETTE for April 30th), was resumed.

Mr. HARVEY OWEN alluded to the removal of a diseased breast under the influence of ether at Guy's Hospital since the last meeting of the Society, and inquired of Dr. Gull the progress of the patient up to the present time.

Dr. GULL replied, that the above was a most satisfactory case: he had himself administered the ether by a new apparatus: in this the ether was allowed to fall guttatim on

the surface of warm water, and thus become volatilized and mixed with watery vapour; the advantage of this plan was that the irritation and coughing were not caused, as in the ordinary apparatus. The patient took about four drachms of ether, and was affected in about four or five minutes. She was of a peculiarly quiet disposition, and did not fear the operation. She afterwards expressed herself aware of persons standing round, and that something was being done, but she felt no pain; there was just a proper effect produced, and no more; the patient awoke herself directly after, on being spoken to, and had since gone on most favourably.

Mr. HILTON considered the above case was most satisfactory, and he was sure much ease was afforded the patient. He did not think the moaning noticed at first denoted pain; arterialization of the blood went on during the operation, and the patient, on return of consciousness, appeared as if waking from a sleep; the effect produced Gull whether he meant that the arteries did not was short of asphyxia. He inquired of Dr. contract under the use of ether, as he had stated at the last meeting, and also whether the ether acted on the grey nervous matter alone, or on the tubules themselves.

Dr. GULL remarked, that in his experiments on cats, the heart beat rapidly, and the muscles retracted as usual; he had remarked the general florid colour of the blood; there seemed to be no venous blood present; it was very important that the effect of ether should be just short of asphyxia. As regarded its action on the brain, the white substance having most fat would be chiefly acted on, but the grey being the dynamic part, would react the soonest; he had found that a portion of muscle dipped in ether still acted under a single galvanic current.

Dr. MUNK alluded to the differences of opinion as to some of the effects of ether. Mr. Adams, of the London Hospital, who had performed double amputation in a railway accident under the influence of ether, stated that the arterial had the colour of venous blood; he had in the country seen two or three satisfactory cases, but others did not heal as usual, and he was not satisfied with the results. In answer to Mr. Smith, he had rarely seen such extensive cases of erysipelas, which disease was not prevalent at the time; those who suffered most during an operation generally seemed to do the best. He inquired of Dr. Gull the precise condition of the two sides of the heart after death, also the state of the cerebral vessels, and if any engorgement of the lungs existed.

Dr. GULL had not had an opportunity of examining the cerebral vessels in man, and in the other animals they were too small to examine. The first action of ether seems to be to destroy sensation and afterwards

respiration; and if the animal is then opened, the heart is found still beating; the blood, both arterial and venous, is of a scarlet colour; the right side of the heart contained more blood, probably in consequence of the left side dying first; there was no engorgement of lungs, as in ordinary asphyxia; the spleen in a mouse was found of a brilliant red colour. In reply to Dr. Munk, he stated that he had not tried the effect of ether on venous blood drawn from the human body, but suggested to the members that by bleeding a patient into a vessel containing oil, this would protect the blood from the action of the air, and the ether could be passed into it, and its effect noticed.

Dr. MURPHY had experimented on a rabbit; the blood, both venous and arterial, at first was red; but as asphyxia and death took place, it became dark. On being boiled, the rabbit did not retain the odour of the ether. He agreed with some French authors as to the similarity of the symptoms with those of alcoholic drunkenness, and that asphyxia does not take place until near death.

Dr. MUNK thought that death by ether appeared like that from asthenia, and inquired if patients became in danger, what means should be used, as Dr. Gull negated the administration of oxygen. In answer to the question from Dr. M.,

Dr. GULL considered that the brain and spinal marrow died first from ether, and then the heart; it destroyed the nervous centres, that of the heart last; perhaps it might permeate the entire system.

Dr. MURPHY stated, that in his experiment the peristaltic motion of the bowels continued after death, he considered that etherization acted on the nervous arteries and muscles of respiration.

Mr. HICKS compared its action to that of prussic acid, and thought it would at times prove advantageous, as in the late operation at Guy's. He remarked, there had been no fatal case of etherization except with an operation, and therefore its effect should be tried on a patient once or twice before the time of operating. He inquired of Dr. Gull the result of all the operations performed at Guy's under its use.

Dr. GULL remembered only four capital operations at Guy's under the influence of ether—a partial removal of the jaw, which case did well; operation for hernia, also successful; case of lithotomy in a lad, who died from sloughing, but which he regarded as having nothing to do with the ether; and lastly, the removal of the mamma above alluded to, which had been most favourable. Two minor operations, viz. the removal of nails, had been also equally successful. Dr. G., with some friends, had taken ether, the

effect being an exhilarating and delightful sensation; it acted differently in some to what it did in others.

Dr. HUGHES could not reconcile the contrary opinions expressed on the subject, and thought that from these no conclusion could be arrived at: there was difficulty in explaining the difference of appearance in the blood; and although Dr. Gull seemed to think that the etherization in some cases had been carried too far, yet in Mr. Adams's case the ether had not caused anything like asphyxia: the statements in the journals, and Mr. Robinson's experiments, were opposed to Dr. Gull's.

In answer to Dr. Hughes, Dr. GULL considered that Mr. Adams's case offered no objection, as it was a severe railway accident, and the application of the tourniquet before the exhibition of the ether would partially explain the colour of the blood. The etherization should never be carried to such an extent as to require the administration of oxygen.

At the next meeting of the Society, a paper will be read by Dr. Todd.

PATHOLOGICAL SOCIETY OF LONDON.

Monday, May 3, 1847.

Dr. WILLIAMS in the Chair.

Dr. CLENDINNING exhibited the

Brain of a Woman who had died suddenly from Apoplexy.

The patient, aged 62, who had suffered for a long time from chronic bronchitis and asthma, was taken suddenly ill after her dinner, dropped down insensible, and in a few moments expired. On the post-mortem examination, the encephalon was found about the twenty-sixth part in weight of the body, and a pound in excess, its convolutions being flattened; around the under surface of the right cerebral hemisphere, the crus, and right side of the pons and medulla, was observed a layer of blood, thicker rather in the latter than in the former situations, enveloping the origins of the nerves. No blood was found in the cerebrum; ventricles contained two ounces of reddish serum; the cerebral convolutions were flattened; air-passages congested, the lungs being slightly emphysematous; slight pleuritic adhesions, with cicatrix at the apex of the left lung; the heart weighed fifteen ounces, being generally hypertrophied; liver, spleen, and pancreas large. Dr. Clendinning remarked, that in this case of hæmorrhagic apoplexy, the brain had suffered compression without laceration or

softening, the comatose seizure being attributable partly to enlargement, and partly to incidental congestion, and hæmorrhage at the base of the encephalon, the principal remote causes being the state of the heart and lungs and the recent meal. Also the

Model of the Lungs of a Man who had survived the Operation of Tapping for Pleuritic Effusion six years.

He was thirty-two at the time of his death, which occurred after a severe attack of influenza, of six weeks' duration. Six years prior to his fatal illness he had been under the care of Dr. Harrison four months, in the Marylebone Infirmary, and was there tapped for pleurisy, four or five pints of fluid coming away. The aperture was left open, and daily exudation of one or two pints continued for a week; it closed at the end of the second week. Three several times it opened afterwards spontaneously. He went out at the end of four months, and was at work till his last illness. There was observed, on the post-mortem examination, general bronchitis of the right lung with emphysema; the left lung (the tapping having been performed on this side of the chest) was much reduced in size, being fleshy and like spleen in structure.

Dr. BARLOW related the case of a boy, aged eleven years and a half, who had been tapped for the relief of a rapid accumulation of fluid in the pleural cavity, which had threatened immediate asphyxia. The discharge from the opening, which continued patent for several months, was intolerably fetid, and composed of purulent fluid mixed with air, the expectoration being of the same character. A year and a half after the operation, the boy expanded the lung of the affected side with tolerable facility, had recovered flesh, and appeared in the enjoyment of good health. Dr. Barlow had never met with a more perfect case of recovery, which was the more interesting on account of the aggravated nature of the disease, the discharge being of that character usually regarded as indicative of a fatal termination.

Dr. WILLIAMS believed, that in all cases of paracentesis thoracis, the discharge of pus on the performance of the operation was (excepting those instances of complication with diseased bone, or communication of the pleural cavity with the bronchial tubes, as in the case of Dr. Barlow) inoffensive. The decomposition and fetid character of the fluid depended, in his opinion, on the admission of air, and he remarked that, according to his experience, the chances of recovery were much diminished when such was the case.

Dr. LITTLE exhibited a specimen of

Carcinomatous Tumor, involving the upper part of the right Lung, and causing entire Obliteration of the Vena Cava superior,

taken from a woman, aged 34, who had suffered from supposed morbus cordis for 19 months previous to her admission into the London Hospital.

Mr. PRESCOTT HEWETT presented five preparations of

Rupture of the Heart and large Vessels, the result of Injuries.

1. *Rupture of the left auricle.*—A man, aged 29, was admitted into St. George's Hospital, in a state of extreme collapse, the report being that he had fallen from a ladder. At the time of his admission, his face was blue and much congested; the hands extremely cold; and no pulse could be felt in any of the arteries: shortly afterwards, however, the congestion of the face disappeared, and a small, irregular pulse became discernible at the wrist. He complained much of pain in the chest. The collapse continued, and he died two hours after his admission.

Examination of the body, twenty-four hours after death.—No external marks of injuries existed; the cavity of the pericardium was distended by a large quantity of blood, the greater part of which was fluid; the other part formed a large, thin, and dark coagulum, enveloping the heart; the blood had escaped through a rent in the anterior surface of the left auricle, towards its left side, and passed a small way up the left inferior pulmonary vein; the laceration measured about half an inch in length, and a quarter of an inch in width; the structure of the heart and valves was healthy; a small quantity of effused blood was found in the cellular tissue surrounding the root of the left lung; some patches of ecchymosis existed also in the sub-pleural cellular tissue of the ribs, on the left side, and at the posterior and lateral parts of both lungs, but, with this exception, their structure was healthy; in the abdomen, a small quantity of blood was found in the peritonæum; the liver presented, on the upper surface of its right lobe, two lacerations, measuring about two inches and a half in length, and about two lines in depth; the other viscera were healthy.

2. *Rupture of the right ventricle.*—A man, aged 53, was brought into St. George's Hospital, dead—the report being, that as he was getting down from a break, one of the horses kicked him on the chest, and sent him backwards several feet. When the passers-by ran to his assistance, they found that he was dead. At the examination of the body, nineteen hours after death,

no marks of external violence were observed; but on removing the skin from the chest, some blood was found extravasated in the cellular tissue. In the second piece of the sternum, there was a transverse fracture, but without any displacement, notwithstanding the laceration of the periosteum on both sides. On the left side of the chest, the second, third, fourth, fifth, and sixth ribs were fractured in two places, close to the cartilages, and near the spine; on the right side, the second and fourth ribs were also fractured at about three inches from their cartilages. The pericardium was filled with fluid blood, and an extensive laceration was found on its left side; but no blood had escaped into the pleura, owing to some old adhesions existing between the lung and the pericardium. The heart was somewhat larger than natural: its cavities were dilated, and its muscular structure thin and flaccid. The right ventricle presented on its anterior surface, and at its junction to the pulmonary artery, a laceration, through which the tip of the index finger was easily passed into the cavity of the ventricle, immediately below the valves of the artery. The laceration, which ran in a transverse direction, started off from the septum, and ran along the margin of the artery. The other parts of the heart and large vessels presented nothing remarkable. The lungs were not injured. The other viscera were not examined.

3. *Rupture of the septum ventriculorum.*—A boy, aged five, was admitted into St. George's Hospital, having been run over by a heavy cart, which passed over his chest. When admitted, he was in a state of collapse, from which he never rallied, and died half an hour afterwards. The body, which was examined twenty-one hours after death, presented numerous bruises upon the arms, legs, chest, and abdomen. On opening the chest, the lungs were found to be remarkably collapsed, this state being more marked on the left than on the right side; in fact, the left lung occupied so small a space in the chest that it was thought the pleura must have contained air which had escaped from the lung; but no wound in the lung was found, although a careful examination was made. On the left side, the second and third ribs were fractured near their cartilages, and the fourth, fifth, and sixth, near their angles; on the right side, the third, fourth, and fifth were also fractured. Both lungs presented numerous spots of ecchymosis, and the left pleura contained a small quantity of blood. No blood was found in the cavity of the pericardium, with the exception of two spots of ecchymosis on the surface of the heart, which appeared quite healthy. One of these spots was on the anterior surface, and the other, about the

size of a shilling, on the posterior surface, in the line of the septum, at about its middle part. On making an incision through the serous membrane at this point, and removing the extravasated blood, a slight laceration was observed in the muscular structure of the heart, through which a probe was easily passed, in an oblique direction, into the cavity of the left ventricle; and on laying open this ventricle, an extensive rupture was found in the septum. This rupture, which was situated at the union of the lower to the two upper thirds of the septum, began at about three lines from the anterior surface of the heart, and from thence passed backwards to the posterior surface, the fibres of which were lacerated, as mentioned above. The rupture, which thus occupied the greater part of the depth of the septum in an antero-posterior direction, in one part extended through its whole thickness, producing an abnormal communication between the two ventricles, through which the tip of the small finger might be passed; and thus the rupture was more extensive on the left side of the septum than on the right. The heart itself was well formed, and its muscular structure healthy in appearance. No rupture was observed about any of the abdominal organs; but a fracture was detected in the left part of the sacrum.

4. *Rupture of the left auricle and of the pulmonary artery.*—A middle-aged man was brought into St. George's Hospital in a dying state, having been thrown from a cart, and probably run over by it. He lived nearly four hours after the injury. At the examination of the body, a large quantity of blood was found in the subcutaneous cellular tissue, and among the muscles of the chest; the sternum was fractured just over the heart; eight ribs were also fractured on the right side, and two on the left. The pericardium was distended with blood; a quantity of blood was also found in the mediastina, and at the root of the lungs, but there was none in the pleuræ. In the front part of the left auricle, and passing transversely above the appendix, was a laceration, about an inch in length, and half an inch in width. In the front part of the pulmonary artery, and just before its bifurcation, was another laceration equally extensive. Both these lacerations extended through the various structures of these parts; but the laceration of the external serous membrane was much more extensive than that of any other structure. The heart itself presented marked hypertrophy of the left ventricle, but otherwise it appeared healthy. The abdomen was also filled with blood, which had proceeded from an extensive laceration of the spleen.

5. *Rupture of the abdominal aorta at its bifurcation.*—A man, aged 35, was

brought into St. George's Hospital, dead. It was stated that he was riding by the hospital, when the horse upon which he was mounted suddenly reared and fell backwards. The man was found lying under the animal. At the examination of the body, no external bruises were observed. The cavity of the peritonæum was filled with bloody fluid and large coagula, which had proceeded from an extensive laceration of the aorta, at the point of its division into the iliac arteries, running transversely, and partly dividing the iliacs themselves, especially the left, which was all but separated from the aorta. The left psoas muscle was much lacerated and bruised, and the bones forming the right sacro-iliac synchondrosis were slightly separated from each other, but without much laceration of the soft parts in the neighbourhood. The coats of the aorta appeared quite healthy.

The appearances observed in Case No. 3 have already been slightly noticed in Mr. Henry Lee's report of the morbid appearances, &c. published in the *MEDICAL GAZETTE* of 1844. Preparation No. 4 is in Mr. Caesar Hawkins' museum. The others are in the museum of St. George's Hospital.

Dr. PEACOCK exhibited a specimen of

Laceration of the Aorta,

probably from violent muscular effort.

A powerful man, 35 years of age, was assisting several others in moving a frame of wood, about ten feet high and six broad, and of about three hundred weight, when a gust of wind over-balanced it, and it fell so as to press him beneath it. He immediately turned deadly pale, gasped a few times, and expired. The exterior of the body displayed no mark of violence, except a slight scratch on the left side of the neck. When, however, the integuments were removed from the front of the chest, the upper part of the sternum, and the sternal ends of the fifth, sixth, and seventh ribs, on the right side, and the cartilage of the seventh left rib, were found partially fractured, so that the whole point of the chest had been depressed. The intercostal muscles between the fifth and sixth ribs were extensively torn. Some bloody serum was effused into the sac of the right pleura, and the cavity of the left side contained nearly two quarts of blood; much blood was also infiltrated into the mediastina. The blood was found to have escaped from the aorta, which, about half an inch behind the origin of the left subclavian artery, was entirely torn across, so that the ends of the vessel were only retained in apposition by its cellular sheath. There was no evidence of direct injury to the vertebræ, or of any part in the neighbourhood of the ruptured vessel. The rest of the organs in the body

were natural. Dr. Peacock remarked, that in the absence of any proof of direct injury having been sustained by the vessel in this case, its rupture could only be ascribed to the violent action of the heart, consequent on the effort to resist the fall of the frame, in the peculiar position occupied by the man at the time. This inference is confirmed by the state in which the heart was found when removed from the body. Both ventricles, but especially the left, were extremely contracted, so that their walls were much increased in thickness, and their cavities entirely obliterated; the organ thus afforded a very characteristic example of the condition described by Bertin as concentric hypertrophy. After, however, it had been macerated in water for two or three days, and the contraction had subsided, the cavities returned to their normal dimensions, and the walls became proportionately thinner. The heart was considerably above its natural size, weighing between eleven and twelve ounces avoirdupois. It is well known, that at the point of union of the obliterated end of the ductus arteriosus with the coats of the aorta, it is very usual that the canal of the latter vessel is found somewhat constricted; and this point is generally, also, one of the earliest seats of atheromatous degeneration. The existence of these changes at that point, in the present instance, seems to have determined the occurrence of the rupture of the vessel. Elsewhere, the coats of the aorta, though perhaps somewhat thin, were free from disease.

Dr. GARROD exhibited

Several specimens of Cystine,

and read the particulars of two cases in which this deposit occurred in the urine.

The first case, for which Dr. Garrod was indebted to Mr. Childs, occurred in a policeman, aged 33, a native of Ely, who had suffered twenty years ago from a nine months' attack of ague.

Had frequently noticed a deposit of gravel in his urine, after exposure to cold, but always of a red colour. About three years and a half since, he accidentally injured himself in the perineum, which part continued to swell and become painful, for about a month, when an abscess burst externally, and also into the urethra; it healed in about six weeks, but, since that time, pus had been formed, and the abscess opened three times.

About a year and a half since, had a violent attack of pain in the back, with vomiting, &c.; soon after, several small calculi passed, and he became relieved. About three months since, the pain in the back returned, and soon after, a much larger calculus passed, together with many small ones; he has since continued, at times, to

pass small stones. The urine also contained a matter which causes a deposit after standing a short time.

He is now a robust-looking man; appears, at first sight, in perfect health, but suffers from dyspepsia, tongue always having a white fur; he is thirsty; lips dry and cracked; frequently an acid taste in the mouth; appetite pretty good, except when he has the sensation of nausea which precedes the passage of calculi; bowels regular; skin moist; often a papular eruption about the face and neck; perspiration sometimes very sour; no disease can be detected in the heart, lungs, liver, or spleen. Hereditary disposition: father was subject to red gravel; mother, still living, not subject to any such affection.

This patient's urine generally gives rise to a deposit which has a whitish appearance, not unlike that produced by a highly refracting crystalline body, as cholesterine, when floating in a fluid; this precipitate does not disappear when the urine is heated, nor when acetic acid is added, but alkalies and the mineral acids both dissolve it. Under the microscope, the deposit appears in the form of six-sided laminæ (as will appear in the specimen); these have frequently a tendency to aggregate, not to form rosettes, as described by some, but the crystals are arranged at right angles to each other. When separated from the deposit, the urine had a pale yellow colour, an acid reaction, which soon disappeared, and it became alkaline, with the formation of crystals of triple phosphate of ammonia and magnesia, which appeared on the surface and sides as a film. Odour strong, but not very peculiar. Specific gravity 1014 at 60 F. Did not give a black precipitate with sub-acetate of lead, so that it contained no alkaline sulphuret. The addition of acetic acid did not cause the further precipitation of crystals of cystine. 1000 parts gave, on analysis, after separating mucus and cystine:—

Water	969.009
Solid matters . .	30.991
Urea	10.125
Uric acid	0.375
Extracted matters, ammoniacal salts, &c. .	13.059
Fixed salts . . .	7.432
Soluble in water . .	5.995
Insoluble in ditto .	1.437

When the urine was kept, it soon became ammoniacal, and also a large quantity of an alkaline sulphuret was found in it, which caused it to precipitate the salts of lead black, and also to evolve sulphuretted hydrogen in abundance when an acid was added. At the same time, a green conferva was found in the fluid on its first becoming alkaline. This urine contained much more

unoxidized sulphur than ordinary urine, most probably in the form of dissolved cystine. Healthy urine, however, always contains such a body; and it is possible that cystine is found in very minute quantities in health, but not in sufficient quantities to cause it to appear in a crystalline form. The quantity of urine passed in twenty-four hours was fifty-four fluid ounces; the quantity of uric acid, in the same time, about nine grains. The calculi passed by this patient consisted of pure cystine; on the surface they have a beautiful crystalline appearance, very much resembling crystallized raw sugar.

Correspondence.

AMPUTATION UNDER THE INFLUENCE OF THE ETHEREAL VAPOUR.

BY E. B. GARDINER, F.R.C.S.

Senior Surgeon to the Stroud Hospital.

W. B., æt. 12 years, was admitted into the Stroud Hospital, on April 15th, 1847, with diseased knee-joint of long standing, for the purpose of amputation. On being placed on the operating table, the vapour was administered by means of Dr. Snow's apparatus. After inhaling for about two minutes the effects were apparent, and in one minute more, and considering him sufficiently under its influence, the circular incision of the integument was made and the flap turned back, during which no sense of pain was indicated either by crying or moving, but towards the separation of the last muscular fibres the patient screamed out most vociferously, and at the same time made some muscular exertion. It was supposed from these last acts that he had suffered pain, but by a little delay for the purpose of securing the femoral artery the boy had now so far recovered the ethereal influence that he demanded his leg should be taken off and that he should be put to bed. On being told that it had been removed he expressed his surprise, and said that he had not felt any pain whatever, but that his screaming was occasioned by fright, and rather a dread of the inhaling apparatus being put again to his mouth. He has recovered so far (three weeks) without a single unfavourable symptom, and he still affirms that he knew nothing of the operation. I cannot clearly and satisfactorily explain the anomaly which we so frequently find related in the cases of etherization.

Stroud, May 5th, 1846.

P.S. I have purposely delayed the report of this case to you that time might develop anything untoward.

Medical Intelligence.

REPUTATION OF THE CHARGE AGAINST AN ENGLISH PHYSICIAN AT NICE.

IN the last number of this journal (page 835) was inserted a short paragraph taken from a French periodical, containing a serious imputation against an English physician practising at Nice. The following document will show that the facts have been not merely exaggerated but grossly misrepresented. Dr. Gurney, the party implicated, is, we understand, still practising at Nice, and retains the high repute which he had already gained, not only with most of the residents of that place but with the family of the deceased lady.

Foreign Office, Feb. 24, 1847.

SIR,—With reference to my letter of the 12th instant, I am directed by Viscount Palmerston to inform you that a Despatch has been received from Her Majesty's Minister at the Court of Turin, enclosing the correspondence which had passed between himself and the Sardinian Minister for Foreign Affairs on the subject of the arrest of Dr. Gurney at Nice.

From these documents it appears that the arrest of Dr. Gurney was the consequence of an infraction, unintentional indeed on his part, of the existing laws of Sardinia, he having proceeded, without proper authority, to make a post-mortem examination of the body of Miss Sewell six hours after death; that there was nothing in the subsequent proceedings tending to shew any desire on the part of the Sardinian authorities to press harshly on Dr. Gurney, and that those authorities, having convinced themselves that there was no ground for the suspicion of improper treatment, or for attributing to that gentlemen any wilful intention to violate the laws by the hasty and unauthorized examination he had made, had acquitted him, free of all costs.

Viscount Palmerston entertains no doubt that these circumstances will dispel from the minds of the public at Nice all impressions which could in any way be prejudicial to Dr. Gurney's personal or professional character, and he therefore trusts that the above explanations will prove satisfactory to you.

I am, sir,

Your most obedient humble servant,

(Signed) E. J. STANLEY.

The Rev. Thomas Gurney.

St. Thomas's Hospital, March 11, 1847.

My dear Sir,—I have carefully perused the very interesting case of Miss Sewell which I herewith return, and am perfectly surprised that any persons can be found so

absurd as to attribute Miss Sewell's death to the medicines prescribed by your brother, whose very attentive and skilful treatment of the case ought to have entitled him to approbation rather than blame.

I am of opinion that no medical skill whatever could have prevented the fatal termination of the disease under which Miss Sewell laboured.—I am, dear sir,

Yours very truly,

(Signed) A. B. LEESON, A.M. M.D.
Oxon and Cant. Physician to St. Thomas's Hospital, and Professor of Forensic Medicine, &c.

The Rev. T. Gurney.

George Street, Hanover Square,
March 14, 1847.

My dear Sir,—In returning the paper which you have placed before me, I cannot help expressing to you privately, in addition to the more public and joint declaration of my opinion, that I consider Dr. Gurney to have treated the case most scientifically; and that after having made an accurate diagnosis of the condition of his patient (as subsequently proved by the post-mortem examination) he used all the means which our art suggests to combat her disease.

Believe me, my dear sir,

Yours very truly,

(Signed) B. G. BABINGTON.

To Horatio C. Brencley, Esq.

Certificate on Miss Sewell's case.

We have read the accompanying document, signed Henry Cecil Gurney, in reference to the case of Miss Sewell, aged 24, whose death took place on the 21st January, 1847; and judging from the description of the symptoms and appearances found in the body after death, we have no hesitation in certifying that the deceased did not die from poison, but that her illness and death are sufficiently accounted for by natural causes.

We are also of opinion that the treatment of the case by Dr. Gurney was throughout judicious and proper, and in strict accordance with the rules of good medical practice.

(Signed) B. G. BABINGTON,
M.D. Cantab., F.R.S. one of the Physicians to Guy's Hospital, London.

(Signed) BRANSBY B. COOPER,
F.R.S. Lecturer on Surgery, and one of the Surgeons of Guy's Hospital.

(Signed) ALFRED S. TAYLOR,
F.R.S. Lecturer on Medical Jurisprudence and Chemistry in Guy's Hospital, London.
March 13, 1847.

The above are exact copies of the original*.

AD. LACROIX, *British Consul*.
Nice, April 7, 1847.

The post-mortem examination was made at the request of the family by Dr. Gurney and Dr. Farr.

* In our next number we propose giving a full report of the case to which these documents refer.

The case itself, signed by the four medical authorities in proof that their opinions were founded upon it, is left at the English Consul's Office at Nice, and contains a copy of the report of the post-mortem examination, signed by Dr. Gurney and Dr. Farr, with a full account of the treatment, and the actual quantity of medicine taken.

To one only of the above mentioned authorities is Dr. Gurney known.

HEALTH OF TOWNS BILL.

LORD MORPETH has announced his intention of postponing certain portions of this measure until the next session of Parliament. It is, however, proposed by his Lordship to proceed immediately with other parts of the bill, confining its positive application to the country corporate towns in England and Wales, where there are already regularly constituted bodies on which the requisite powers can be conferred. Other towns may be included, on a petition to the Privy Council from a majority of the rated inhabitants. A separate bill will be hereafter introduced for the metropolis. From the present aspect of affairs we fear there is but little probability of obtaining any substantial enactment on the subject of sanitary reform during this session.

TYPHUS FEVER IN MANCHESTER.

TYPHUS fever is very prevalent in Rochdale, particularly amongst the Irish, in the low lodging-houses and cellars. We have noticed the death of Mr. Barker, surgeon, from this malady. Another surgeon has also caught the disease in a similar manner, and lies dangerously ill. At the petty sessions, on Monday last, Mr. J. Whitehead, relieving officer, said the fever increased every day. On being questioned by the bench, he said the board of guardians had tried to take land to build something like a fever ward at the outskirts of the town, but they were unable to meet with a place for that purpose. The number of Irish increased almost every day, and the fever was spreading in various parts of the town.—*Manchester Guardian*.

LAND SCURVY IN SCOTLAND.

WE understand on good authority that this disease is very prevalent in the isle of Skye, as well as in other parts of Scotland. Many of the poorer classes now suffering from it have been compelled to live entirely upon sea-weed! They were unable to procure any other kind of food. The disease has also shown itself in the west of England, and we intend to publish, in the following number, some remarks on the subject, which have been forwarded to us by Dr. Shapter, of Exeter.

INCREASE OF INTERMITTENT FEVER BY THE CONSTRUCTION OF A RAILWAY.

At a recent meeting of the Academy of Sciences, M. Dollfus-Ausset presented a statistical account of the mortality from fever in the districts of Bollwiller and Feldkirch. It appears that owing to the considerable embankments required for the construction of the Strasburg and Basle Railway, excavations of great extent have been made in the two above-named districts. During spring and autumn these become filled with water; and in summer the stagnant pools become partially dried up, leaving a pestilential slime. They have, in fact, all the characters of marshes, and the usual marsh plants grow in them. In consequence of this, the two districts in which they are situated have suffered severely from fever during the last three years. In the commune of Bollwiller there are 1446 inhabitants, and in that of Feldkirch 450. The following table shows the numbers of persons attacked during the last four years:—

	Bollwiller.	Feldkirch.
In 1843 . . .	36 . . .	2
1844 . . .	166 . . .	20
1845 . . .	743 . . .	135
1846 . . .	1166 . . .	376

There has also been an increased rate of mortality in both communes.

It would appear, too, that there has been during the same period a rapid increase in the demand for sulphate of quinine.

ROYAL MATERNITY CHARITY.

In a paragraph taken from the *Times*, and inserted in the last number of this journal, it was stated that during the last ninety years, by the aid of this Charity, 36,000 females had been delivered. We have, however, the authority of Dr. F. H. Ramsbotham for stating that during this period no less than 346,000 females have been delivered; averaging nearly 4,000 cases per annum.

PRESENTATION OF PLATE TO DR. TAYLOR.

Address to John Taylor, M.D. London, Physician to the Huddersfield Infirmary, and late Professor of Clinical Medicine in University College, London, and Physician to University College Hospital.

SIR,—It was with feelings of deep regret that the former and present Students of the Faculty of Medicine of University College became acquainted with your retirement from the Chair of Clinical Medicine and from the Office of Physician to the Hospital. These feelings were increased by the reflection that impaired health, the consequence of your unceasing exertions on their behalf, had been the cause of your resignation of these responsible appointments.

While however they lament your separa-

tion from them, they gladly indulge the hope and expectation that your withdrawal from London will be conducive to your perfect recovery; and that, in a less laborious sphere of usefulness, you may regain and long enjoy that strength and energy which have been so freely sacrificed to their interests.

The superior talents, philosophic character, and eminent successes which distinguished you as a student, early marked you out as a fitting guide to others, and eventually raised you to one of the most important Professorships in this College.

That the distinction thus conferred manifested on the part of the Council of the College a most correct judgment, has been proved by the very able manner in which you performed the duties of the chair, for none, who at the bedside or in the Lecture Room have reaped the fruits of your labours, could fail to appreciate your untiring perseverance in investigating disease, your powers of minute and accurate observation, and the rigid and philosophical deductions which you drew from the facts observed. Above all, the unswerving love of truth which governed your researches; and they have always attached a peculiar value to your opinions, because they knew that none were formed without strict inquiry, and none given without adequate foundation.

The estimation in which those have ever held you, who have marked your course as a scientific cultivator of medicine, has been enhanced by their knowledge of your unsullied integrity, high principles, kindness of disposition, and unaffected manners; in a word, by those exalted qualities which shed a lustre around intellectual attainments that they can never possess alone.

As a lasting testimony of their united feelings towards you as their teacher and their friend, the undersigned beg to present you with the accompanying Service of Plate; and at the same time to express their earnest wishes for your health, happiness, and prosperity in the position to which you have been called; with the assurance that they can never cease to feel the deepest interest in the welfare of one who so deservedly possesses their admiration, respect, and regard.*

"Here follow the signatures."

* The Service of Plate consists of a very elegant Tea Pot, Coffee Pot, Cream Jug, and Sugar Basin, with a richly-chased Salver, bearing the following inscription:—

"Presented, with the accompanying Service of Plate, to John Taylor, M.D. late Professor of Clinical Medicine in University College, London, and Physician to University College Hospital, by the former and present Students of the College, in testimony of their high estimation of his character as a man, of his zeal and learning as a Professor, and of his distinguished abilities as a Physician.—MARCH, 1847."

Extract from Dr. Taylor's Answer.

Gentlemen,—I thank you for the kindly feelings which have dictated your expression of the regret with which you became acquainted with my retirement from University College, and I beg to assure you that there are many circumstances connected with my separation from a place to which I have so many reasons to feel attached, which, if considered apart from others, would overwhelm me with a similar feeling of regret. To my intercourse with the pupils I can look back with feelings of pleasure unmingled with a single disagreeable recollection. Although I was appointed a Professor whilst many of my fellow pupils continued in the College, and was elected to a chair the duties of which brought me into contact almost exclusively with the most advanced students, I found that my instructions were listened to with the greatest patience and attention. Investigations which, apart from their intrinsic utility, would have appeared dry and repulsive, and tediously minute, were followed out with an amount of cheerfulness, persevering application, intelligence and success, which commanded my highest admiration and respect; and during the entire period that I retained my Professorship, whilst I can gratefully call to mind very many acts of kindness, I never once had my feelings disturbed by a single disrespectful word or act on the part of a single pupil of the College.

From my late colleagues as a body, and from the Council of the College, I have uniformly experienced the greatest kindness and consideration.

Engaged in such circumstances in investigating and in teaching a subject to which I was devotedly attached, and in pursuing which I acted in obedience to an impulse which might not improperly be termed instinctive, and which regarded little beyond its own gratification, I held my appointments long after the state of my health warned me to retire, and I finally quitted them with heart-felt regret. If anything could now excite in me a wish to retrace my steps, the renewed and extraordinary proof of your regard which I have just received would do so; and I confess that I have never felt so strongly tempted to wish myself among you again as when I first heard of those intentions to which you have now so generously given effect.

But my decision had not been hastily arrived at. My health broke down year after year,—I had before me the prospect of continually increasing engagements,—I was not satisfied with the way in which I was often compelled, by failing strength, to go through my public duties, and I felt that I was likely soon to be deprived of the power

of being either useful or happy. An equally extended, and a less laborious field of usefulness among my earliest friends, and in the midst of tenderly cherished associations, now most unexceptedly offered itself, and removed the sole remaining obstacle to my retirement from London. I trust you will give me credit for not desiring needlessly to bring before you my more private feelings, if I add that on many occasions, since the period of my separation from you, when my heart might have sunk within me, I have found a never-failing source of comfort and support in being able to repose in the firm belief that the All-wise Being, whose direction I earnestly sought, has guided all my steps in unerring wisdom and infinite love.

It is now a gratification to me to know that neither you nor the future pupils of the College will lose any thing by my retirement; for, if I am unwilling to believe that my successor will perform his duties with more pleasure or more devotion than I did, I am happy to have this opportunity of expressing my conviction that he will perform them with more ability. It will be equally gratifying to you to learn that I have much cause for thankfulness and none for dissatisfaction in the course I have taken. My health has much improved, and with it my daily enjoyments. My professional engagements are as numerous as I ever wish them to be, and I have therefore the prospect of being not less useful here than in London.

MEDICAL REGISTRATION AND MEDICAL LAW AMENDMENT BILL.

(HOUSE OF COMMONS, MAY 12TH.)

MR. HAWES presented several petitions against the bill.

SIR R. INGLIS presented a petition from the Royal College of Surgeons, praying that the bill may not pass into a law.

MR. WAKLEY presented petitions from practitioners residing in Liverpool, Manchester, and Birmingham, and other large towns in England, Ireland, and Scotland, in favour of the bill. The hon. member then moved that the order of the day for the second reading of the bill be read, that he might postpone it until Monday fortnight (May 31st), when he should bring forward the motion of which he had given notice, that the bill be referred to a select committee.

Agreed to.

ROYAL SOUTH LONDON DISPENSARY.

THE 26th anniversary festival of this Charity took place at the Albion, Aldersgate Street. His Royal Highness the Duke of Cambridge in the chair. About 70 guests sat down to a dinner provided in excellent style by Messrs. Stables. His Royal

Highness, in proposing the toast of the evening, "Success to the Charity," dwelt upon its usefulness, and pressed its claims on public support. Since its establishment 37,000 persons had been relieved, the largest number of patients in one year being 4,904. During the past year the state of the funds circumscribed the usefulness of the Charity; the wants of the neighbourhood were augmenting with the population. Mr. Galsworthy, the honorary secretary, in the course of the evening, announced subscriptions to the amount of £350.

ASIATIC CHOLERA.

THIS disease broke out in the ship Lord Hungerford, just arrived from India, before she left the Ganges. It carried off eight soldiers of the 98th regiment, one soldier of the 29th, and five of the ship's crew. The disorder gradually abated as the ship advanced in the Indian Ocean.

INVEIGLING AND ROBBING A SURGEON.

At the Court of Justiciary, held at Glasgow, on Thursday week, two persons, James Ford and Jane Livingston, were sentenced to fourteen years' transportation, for having inveigled Mr. Black, a surgeon, into their lodgings under the pretence that his services were required for a sick person, and then assaulted and robbed him.

ST. BARTHOLOMEW'S HOSPITAL.

THE annual distribution of prizes and honorary distinctions awarded by the Treasurer, the Hospitaller, and the medical officers and lecturers, at the conclusion of the winter session, took place on Wednesday, the 5th inst., in the hall of the hospital, in the presence of His Royal Highness the Duke of Cambridge, the Right Hon. the Lord Mayor, the President of the Royal College of Physicians, the President of the Royal College of Surgeons, the Master of the Society of Apothecaries, Sir R. H. Inglis, M.P., and many governors and visitors. The centre of the hall was chiefly occupied by ladies, who appeared to take a lively interest in the proceedings. The President, Alderman Lucas, having taken the chair, Dr. Baly delivered a suitable address on the origin and progress of the hospital, and its medical school, mentioning the success of the arrangements recently made by the governors and the rev. the Hospitaller for the improvement of the medical school, and the moral and religious culture of the students, by the formation of the collegiate establishment and the institution of daily service in the church attached to the hospital. The number of students was stated to have greatly increased, and the habits of study and the general conduct of the students to be much improved.

The prizes were then presented, with appropriate observations.

THE FEVER AT LIVERPOOL.

THE *Akbar*, one of the Quarantine vessels assigned by Government for the fever cases at Liverpool, will accommodate about 300 persons, and in a few days it is expected, another vessel, the *Newcastle*, will be at liberty to be used for the same purpose. Dr. Cameron and Mr. M'Clellan, surgeon, have been appointed to board the Irish vessels as they arrive, and Mr. Haverty will officiate as surgeon on board the *Lazaretto*. In order to afford facilities for boarding the vessels and for communicating with the shore, a small steamer has been engaged by the vestry. It is intended, we believe, to reserve the *Akbar* for the use of the sick persons arriving in the steamers; but when the *Newcastle* is at liberty, she will be used for fever patients in the town. During the past week the influx of Irish into this port has been as follows:—Monday, 1,035; Tuesday, 677; Wednesday, 825; Thursday, 1,105; Friday, 1,010; Saturday, 667; Sunday, 2,445. Total, in seven days, 7,764.—*Times*, May 13th.

EFFECT OF ETHER VAPOUR ON THE INSANE.

DR. CAZENAVE, director of a lunatic asylum at Pau, lately administered ether vapour to an insane patient, who had no rest night or day for a period of nearly five months. The patient became immediately calm, and after five inspirations she fell into a state of insensibility, which lasted twenty-five minutes. The torpor then ceased without any injurious symptoms appearing. M. Cazenave proposes to employ ether vapour in the violent attacks of mania.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination and received certificates to practise on the 6th inst.—Richard Scott Boley, Bristol—John Rogers, Worcester—Edward John ap Ellis Eyton, Overton, Wales—William Butler, Stoke Newington—Henry Chawner—Robert Martin Craven, Hull, Yorks—James Graham Nichol, Crook, Durham—George Frederick Burroughs, Sussex.

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted Members on Friday, May 7, 1847.—S. Melassez—J. Rushforth—G. Davis—T. Littleton—J. Prowse—D. Hope—H. Hart—R. Capron—G. Milburn.

OBITUARY.

ON the 4th inst., J. P. Simon, M.D., formerly of Dublin, at 5, Tavistock-row, Covent Garden, aged 52.

On Wednesday, the 5th inst., at No. 2, Circus, Bath, Stewart Crawford, Esq., M.D.

Selections from Journals.

ANIMAL CHEMISTRY.

ANALYSIS OF LYMPH.

M. GEIGER has given an analysis of lymph which is somewhat different to the analyses of this fluid hitherto published. The lymph in M. Geiger's case was obtained from the foot of a diseased horse; it flowed abundantly and was perfectly clear and transparent. Its composition was as follows:—

Water	983.7
Fibrine	0.4
Albumen	6.2
Extractive matter . .	2.7
Fixed salts	7.0
Fat and ammoniacal salts	traces

1000.0

One peculiarity in the results of this analysis was that the albumen, instead of presenting the ordinary characters of coagulation by heat and acids, behaved almost like caseine; ebullition of the lymph causing the formation of a crust on its surface, analogous to that which forms on the surface of milk when boiled. Acetic acid added to the lymph caused the production of no flocculi, except by the aid of heat. The quantity of fibrine is below that stated in all other analyses of this fluid, in which it varies from 1.2 to 5.2. The presence of ammoniacal salts is also here for the first time noticed.—*Gazette Médicale*, 6th Fevrier, 1847.

MORBID APPEARANCES OBSERVED IN ANIMALS AFTER DEATH FROM THE INHALATION OF ETHER.

THE phenomena produced by the inhalation of ether are the same in animals as they are in the human species; therefore the post-mortem appearances found in animals killed by the effects of the inhalation are of considerable importance in relation to the operation of this remedy on man. M. Amussat finds that the arterial blood of animals during inhalation, instead of being red, presents a dark, almost black colour, similar to that of venous blood; this change, however, only takes place at an advanced period of the inhalation; the bright colour is speedily resumed upon suspension of the inhaling process. If the animal's life is destroyed by the process, the blood is found black and liquid, and has been proved by M. Flandin to contain ether. The viscera almost always present well-marked traces of congestion; the heart is found much distended, and resembles closely the hearts of animals which

have died from the accidental introduction of air into the veins; the right cavities of the organ contain a large quantity of fluid black blood; the surface of the lungs, as well as their interior, is of a deep red colour; the liver is gorged with black blood; the kidneys are also loaded with blood, and present a violet tinge; the spleen, on the contrary, shews no appearance of congestion; the vessels of the dura-mater are loaded with blood, and the pia-mater is greatly injected; the substance of the brain seldom presents any alteration.—*Comptes Rendus*, 22nd February, 1847.

THERAPEUTICS.

WHAT INFLUENCE SHOULD AN IMPROVED KNOWLEDGE OF THE PATHOLOGY AND DIAGNOSIS OF CANCER HAVE UPON THE TREATMENT?

Most of the practical points connected with the surgical treatment of cancer, were fully discussed in the French Academie de Médecine, in 1844, on the occasion of a paper read by M. Cruveilhier. That eminent pathologist maintained that surgeons are continually cutting out fibrous tumors from the female breast which never undergo cancerous transformation, and which, therefore, might be allowed to remain with perfect safety. So far from fibrous growths ever degenerating into cancer, he considered that they indicate a state of constitution altogether incompatible with malignant action, so that in being able to detect them in the breast or uterus, he has confidently assured the patients that they would never be subject to cancer. In support of these statements he brought forward cases of tumors in these situations, which had existed from ten to thirty years, and cited one exceptional instance, where cancer having attacked a breast already the seat of fibrous tumors, these remained unaffected, while all the rest of the organ was cancerous. He pointed out that cancer always depended upon a constitutional disorder, that local disease was the effect and not the cause, and to remove the first, while the latter was allowed to remain, was an irrational practice. In these opinions M. Cruveilhier was supported by MM. Velpeau and Jolly. The first maintained that he could diagnose fibrous, or what he called fibrinous tumors of the mamma, which never degenerated into cancer, although he frequently removed them, to tranquillize the patient, or to get rid of a deformity. On the other hand, it was contended by most of the practical surgeons of Paris, including the names of Blandin, Gerdy, Roux, Amussat, Berard, and Lisfranc, that it was impossible to diagnose fibrous from cancerous tumors of the breast at an early period; that the former were

only an incipient stage of the latter, and consequently frequently degenerated; and that the best practical rule to be followed was always to excise them as early as possible. They maintained that the disease was first local, and that the cachexia was induced by absorption from the morbid growth—was the cause, and not the result. They denied the law of incompatibility, sought to be established by M. Cruveilhier, and denounced his paper as one likely to be followed by the most injurious consequences in practice. In support of these opinions, numerous cases were cited, having all the symptoms and characters belonging to what M. Cruveilhier called fibrous tumors, which afterwards became cancerous, and destroyed the patient. Some specimens also were brought forward, where tumors, originally fibrous, had apparently undergone the cancerous transformation, even in the uterus. Many surgeons brought forward instances of tumors, to all appearance truly cancerous, which were excised, and where there had been no return for a long series of years. This celebrated discussion left the practical question in the same state as before, namely, that as a matter of prudence, all tumors should be removed from the female breast as early as possible, whatever be their nature. No one practitioner who took a part in it appeared to be aware of the real structure of cancerous tumors, or knew that a fibrous as well as a foreign growth was invariably present in them. Indeed, many cited, as the best proof of cancer, the presence of the dense fibrous structure, often grating under the knife, which is exactly that part of the tumor which is least malignant.

A more perfect diagnosis, however, has already led to some useful modifications in surgical practice. Among these, Dr. Bennett alluded to the altered operation of fungus of the testicle, so successfully executed by Mr. Syme, as communicated to the Society. Another valuable modification has been introduced by M. Sedillot, of Strasbourg. It is well known that in many cases of incipient cancer, it has been advised to make the incision embrace a considerable portion of the sound textures, in order to insure eradication of the malignant growth. Thus the whole female breast has often been removed, although the extent of the tumor has been inconsiderable. In cases, however, where a restoration of parts is necessary, as in the lip, the rule is very inconvenient. M. Sedillot, therefore, in several cases, having satisfied himself, in the manner pointed out, that the ulcer or growth is not cancerous, has barely removed the indurated structure, and thus been enabled to preserve a larger amount of soft parts than he otherwise would have done. These operations have been perfectly successful.

In some cases, an exact diagnosis formed by a microscopic examination, has prevented an operation which would otherwise have been determined on. Vogel gives a case of ulcerated breast of this kind. (*Icones Histologicæ Pathologicæ*, p. 127.) Dr. Bennett has seen two others, where, in a canceroid growth in the breast, he diagnosed non-malignant disease. All these cases ultimately recovered. If, when this means of examination has been so little employed, such good results have already resulted, what may we expect when surgeons are more extensively aware of the benefits which may be derived from an exact diagnosis? Dr. Bennett believed that we were only on the threshold of the inquiry, and that the most important discoveries would yet be made in the pathology and diagnosis of cancerous growths, the influence of which upon surgical practice could not be calculated on.

In conclusion, Dr. Bennett observed, that he had carefully avoided theory. He had said nothing of the supposed mode of growth of the cancer cells, whether the disease be dependent on a peculiar condition of the blood, induced by any particular regimen, climate, constitution, or other causes. He had confined himself entirely to facts, and endeavoured to show that cancer possesses a distinctive structure; that it may occasionally undergo a calcareous, and probably a fibrous transformation; that a knowledge of its structure is of diagnostic value; and that this has already been serviceable to the healing art, and bids fair to be still more so in the treatment of this class of fatal diseases.—*Dr. J. H. Bennett's Observations on Cancer.*

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, May 1.

BIRTHS.	DEATHS.	Av. of 5 Yrs.
Males.... 622	Males.... 503	Males.... 468
Females.. 654	Females.. 480	Females.. 446
1276	983	914

DEATHS IN DIFFERENT DISTRICTS.

(24 in number;—*Registrars' Districts*, 129. Population, in 1841, 1,915,104.)

West—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326)	136
North—St. Marylebone; St. Pancras; Islington; Hackney .. (Pop. 366,303)	189
CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London .. (Pop. 374,759)	153
EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar .. (Pop. 393,247)	223
SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich .. (Pop. 479,469)	260
Total	983

CAUSES OF DEATH.

ALL CAUSES	983	Spring av. 914
SPECIFIED CAUSES	981	900
1. Zymotic (or Epidemic, Endemic, Contagious) Diseases ..	148	166
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	116	90
3. Brain, Spinal Marrow, Nerves, and Senses	156	158
4. Lungs and other Organs of Respiration	304	275
5. Heart and Bloodvessels	50	20
6. Stomach, Liver, and other Organs of Digestion	86	70
7. Diseases of the Kidneys, &c.	11	6
8. Childbirth, Diseases of the Uterus, &c.	13	10
9. Rheumatism, Diseases of the Bones, Joints, &c.	15	8
10. Skin, Cellular Tissue, &c.	4	2
11. Old Age	63	57
12. Violence, Privation, Cold, and Intemperance	15	28

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	11	Convulsion	24
Measles	10	Whooping-cough ..	36
Scarlatina	13	Typhus	40
Hydrocephalus ..	26	Dropsy	13
Apoplexy	24	Sudden deaths ..	7
Paralysis	33	Teething	11
Childbirth	6	Dis. of Liver, &c. ..	9
Dis. of Uterus, &c. ..	4	Dis. of Lungs, &c. ..	11
Pneumonia	60	Dis. of Stomach, &c. ..	5
Phthisis	123	Dis. of Liver, &c. ..	9

REMARKS.—The total number of deaths was 99 above the weekly average. Diseases of the lungs are still unusually prevalent; and bronchitis is especially fatal among aged persons.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer	29.56
" " Thermometer	48.1
Self-registering do. max. 80° min. 26°	
" in the Thames water .. 50.8 .. 49.2	
From 12 observations daily. Sun.	

RAIN, in inches, .54: sum of the daily observations taken at 9 o'clock.

Metecological.—The mean temperature of the week was 5.9° below that of the month.

NOTICES TO CORRESPONDENTS.

The communications of Dr. Camps, Dr. Griffith, and Dr. Everett, will appear in our next No. Mr. Emlyn, a respectable chemist of Guildford, writes to inform us in reference to a paragraph on "Free Trade in Poisons," p. 654, that there was no trial for poisoning with Godfrey's Cordial at Guildford. He is quite correct: the trial took place at Kingston.

We shall have great pleasure in inserting the paper and in noticing the translations referred to by Dr. Wright. The address for which he inquires is Guy's Hospital.

We have to thank Dr. Shapter for forwarding to us a note on the spreading of Land Scurvy. We have been unavoidably compelled to postpone his paper until next week.

Ed. H., Oxford.—Dr. Roxburgh's new barometer was exhibited at the meetings of the Royal Institution about five weeks since. A letter addressed to the Secretary of the Institution would probably procure the information desired.

The resolutions in favour of the Medical Registration Bill from a meeting held at Wakefield, and the letter of Dr. Shearman on the same subject, reached us too late for the present No. Mr. G. Harvey's case has come to hand, and will be published.

Received.—The Manx Sun.—European Times.

Lectures.

LECTURES

ON THE

DISEASES OF INFANCY AND
CHILDHOOD,

Delivered at the Middlesex Hospital,

BY CHARLES WEST, M.D.

Physician-Accoucheur to, and Lecturer on Mid-
wifery at, the Middlesex Hospital, and Senior
Physician to the Royal Infirmary for Children.

LECTURE II.

*Diseases of the brain and nervous system—
their extreme frequency in early life
favoured by the rapid development of the
brain, and the wide variations in the
cerebral circulation during childhood.—
Peculiar difficulties of their study.—
Symptoms of cerebral disease in the
child.—Convulsions, their frequency in
great measure due to the predominance
of the spinal system in childhood—may
be excited by many causes—hence atten-
tion should always be paid to the precur-
sors of an attack. Description of a fit of
convulsions.*

GENTLEMEN,—It can scarcely be necessary to assign many reasons for beginning this course of lectures with the study of the diseases of the nervous system. The subject, although beset with many difficulties, has always engaged much attention; partly, no doubt, from the natural tendency of the human mind to inquire most curiously into those truths that seem most hidden; but still more from the alarming nature of many of the symptoms that betoken disturbance of the nervous system, and from the frequently fatal issue of its diseases. But besides the general interest and importance of these affections, at whatever age they may occur, their extreme frequency in early life gives them an additional claim on our notice.

It appears from the Fifth Report of the Registrar-General, that 7503 out of 45,000 persons who died in the metropolis during the year 1842, were destroyed by the various diseases of the nervous system. But 4847 of these 7503 deaths took place during the first five years of existence; or, in other words, 64 per cent. of the fatal disorders of the nervous system occurred within that period. Even after making a very large allowance for the possible errors of statistical data, this predominance of the diseases of the nervous system in early life is far too

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remarkable to be overlooked; though some persons, not being able to account for the fact, have affected to doubt its reality.

The fact is one which cannot be gainsayed; and though we cannot pretend thoroughly to account for it, yet two considerations may help in some degree to explain it.

The first is derived from our knowledge of the circumstance, that in an organ whose development is rapidly advancing, many diseased processes also, if once set up, will go on with proportionate activity. Now there is no organ in the body, with the exception of the pregnant womb, which undergoes such rapid development as the brain in early childhood: It doubles its weight during the first two years of life, and reaches nearly, if not quite, its maximum by the end of the seventh year. This same active state of the nutritive or vegetative processes in the brain of the child renders the organ liable to have disease set up in it by causes which would produce little or no injurious effect on the brain of the adult.

In the second place, the brain in infancy is much more exposed to disorder than that of the adult, owing to the far wider variations of which the cerebral circulation is susceptible in early life than subsequently. Nor is the cause of this difficult to discover. The cranium of the adult is a complete bony case, and the firm substance of the brain affords a comparatively unyielding support to the vessels by which it is nourished. It has been proved, indeed, by Dr. Burrows* that the quantity of blood which these vessels contain is not always the same, as some have erroneously supposed; still its variations must needs be circumscribed within far narrower limits than in the child, whose cranium, with its membranous fontanelles and unossified sutures, opposes no such obstacle to the admission of an increased quantity of blood, while the soft brain keeps up a much slighter counter-pressure on the vessels than is exerted by the comparatively firm parenchyma of the organ in the adult. If the circulation in the child be disturbed, whether from difficulty in the return of venous blood, as during a paroxysm of whooping-cough, or from increased arterial action, as at the onset of a fever, or during the acute inflammation of some important organ, the brain becomes congested, and convulsions often announce the severity of the consequent disturbance of its function. The same causes, too, which expose the brain to be overfilled with blood, render it possible for it to be drained of its blood more completely than in the adult. This

* In his Lumleian Lectures, published in the MEDICAL GAZETTE, April 26, and May 6, 1843, and subsequently in his work on Disorders of the Cerebral Circulation, &c., 8vo. Lond. 1846.

fact, which you should always bear in mind when treating the diseases of infants, is one reason why excessive depletion induces a far more serious train of symptoms in young children than succeed to it in the grown person.

It happens unfortunately that while there are special reasons for studying the diseases of the nervous system in childhood, this study is beset with special difficulties which we do not meet with in the adult. Disordered intellect, altered sensation, impaired motion, are the three great classes to which the symptoms of disease of the nervous system may be referred. If our patient be an adult, he tells us of his altered feelings; he perhaps experiences some disorder of his intellectual powers even before it has become observable to others, and, thus timely warned, we can often take measures to prevent the advance of disease, and to ward off that impairment of the motor powers which in his case we know usually indicates the occurrence of some grave organic lesion. In the child things follow a very different course. At first it cannot express its sensations at all, while, long after it has acquired the power of speech, it knows too little how to shape its ideas into words to give a correct account of what it feels; and we cannot expect to learn much from the disturbance of an intellect which as yet has scarcely asserted its claim to be any thing higher than the instinct of the animal. The value of the symptoms, too, is different; for disturbance of the motor power, which is comparatively rare in the adult, except as the consequence of some serious disease of the brain, takes place in the child in cases of the mildest as well as the most serious ailments; and we may even observe convulsions recurring several times a day for many days together, apparently without adequate cause, and not leading to any serious impairment of the child's health.

How, then, are we to attain in the child to anything beyond the merest guess-work in our diagnosis of diseases of the nervous system, when we are deprived to so great an extent of that information which the state of his intellect and the description of his sensations afford us in the adult? What meaning are we to attach to that symptom—the impairment of the motor power, which in the adult we look on as of such grave import, but which we meet with in the child under such varying conditions and in by far the greater number of cases? The task, indeed, is attended with difficulty, and the solution of these inquiries will need that you should devote to it some time and some careful observation; but if you do this you need not despair of learning much about an infant's sensations, and the state of its *mind*, and will at length become able rightly

to interpret the meaning even of a fit of convulsions.

It may be well to pause here for a moment, and briefly to pass in review the symptoms by which disease of the nervous centres, and especially of the brain, manifests itself in infancy and early childhood.

The painful sensations which the infant experiences soon show themselves in the haggard, anxious, or oppressed look, which takes the place of the naturally tranquil expression of its countenance. It often puts its hand to its head, or beats or rubs it, or while lying in its cot, bores with the occiput in its pillow, owing to which, in children who have suffered for any time from uneasy sensations in the head, you will often find the hair worn quite off the occiput. It turns its head away from the light, and lies much with its eyes half closed, in a state of apparent drowsiness, from which it often arouses with a start, and cries. The cry, especially in inflammatory disease, is peculiar; it is generally a low, almost constant moan, very sad to hear,—interrupted occasionally by a sharp, piercing, lamentable cry, almost a shriek. If the child be young it will often seem relieved by being carried about in its nurse's arms, and while she is moving will cease its wail for a time, but begin again the moment she stands still. You will sometimes observe, too, that if moved from one person's arms to those of another, or even if its position be but slightly altered, a sudden expression of alarm will pass across its features; the child is dizzy, and afraid of falling.

You see, then, that even in the infant there is a language of signs by which we learn with certainty the existence of pain in the head, and the connexion of this pain with dizziness and intolerance of light. You must beware, however, of concluding from any one set of symptoms that the head is the seat of real disease. The child, as well as the adult, may have sick headache, and the degree of febrile disturbance, of heat of surface, and of heat of head, together with the state of the digestive organs, are all to be taken into account in forming your diagnosis.

Something may be learned of the state of the mental powers and of the feelings even in early infancy. Have you never watched an infant on its mother's lap, and noticed the look of happy recognition with which its eye meets that of its mother? An early result of cerebral disease is to interrupt this intercourse: the child now never seems to catch its mother's eye, but lies sad and listless, as if all persons were alike indifferent to it; or at other times even familiar faces cause alarm, the child apparently not recognising those who yet have always tended it. This disturbance, however, is but momen-

tary, and the child subsides into its former condition, and allows itself to be taken by those at whom a minute before it seemed frightened.

But these symptoms are to be interpreted by the light thrown on them from other sources, and by the information, both positive and negative, thus obtained. You fear that disease is going on in the brain; but is the skin hot?—is there heat of head?—are there frequent flushings of the face, and does the accession of each flush seem connected with an increase of agitation and distress, or followed by a deepening of the drowsiness? Is the fontanelle prominent and tense, or are the pulsations of the brain to be felt with unusual force through it?—are the veins of the scalp full, or do the carotids beat with unusual force? What is the character of the pulse?—is it not merely increased in rapidity, but, even when examined under exactly similar conditions, does it afford a different result each time? Do you find it irregular in frequency, or unequal in the force of its beats, or even distinctly intermittent. Again, what is the state of the pupil?—is it generally contracted, as if to exclude light as much as possible from the over-sensitive retina?—or is it usually dilated, and does it act slowly, as though disease had deadened the sensibility of the nervous system, or do the pupils of the two eyes not act simultaneously, but one more readily than the other? Do the pupils oscillate under the light; at first contracting, then dilating, and either remaining dilated or continuing to oscillate, though within narrower limits, and with a tendency to remain more dilated than at first? Or, lastly, do you find, when the child is roused, this oscillation of the pupil going on under the ordinary amount of light that enters the chamber? Now all of these are indications of disordered function of the brain, and many of them point to disorder of a very serious kind.

But there are yet other sources from which we must not neglect to seek for information. Much may be learned from the state of the digestive functions. The bowels are almost always disturbed, usually though not invariably constipated, while nausea and vomiting are seldom absent. I am not acquainted with any one symptom which should so immediately direct your attention to the brain as the occurrence of causeless vomiting, and especially its continuance. At first perhaps the child vomits only when it has taken food; but before long the stomach will reject even the blandest fluid, and then the efforts at vomiting will come on when the stomach is empty, a little greenish mucus being rejected, with no relief, the retching and vomiting soon returning. I shall have

occasion to dwell again upon the importance of this symptom, which I have known continue for several days before any other indication of cerebral disease could be discovered. In children of three or four years' old this occurrence would scarcely be overlooked; but the case is different with infants, who so often vomit the milk when ill, that the mother or nurse might fail to mention it to you if you did not make special inquiries with reference to that point.

The manner in which the functions of the respiratory organs is performed is also not to be overlooked. That peculiar, unequal, irregular breathing to which the name of cerebral respiration has been applied, though of considerable value when present, is sometimes not observed, or not until the disease of the brain is already so far advanced that all questions of diagnosis have long been set at rest. There is, moreover, a short, hard, hacking cough, which you may sometimes hear, and the import of which you ought to be acquainted with, since it betokens disease of the brain, not of the lungs. There are peculiar sounds, too, which sometimes attend respiration, and are known as indicating disturbance of the nervous functions. To these, however, I shall have to return hereafter, since they betoken a disease of a serious nature, known by the name of spasmodic croup, and which I must, in the course of these lectures, describe in full.

I have purposely delayed till now speaking of the indications of cerebral disease afforded by the occurrence of convulsions. The symptom is one undoubtedly of great importance, since it is observed in almost every case of serious disease of the brain, at some stage or other of its progress. The very frequency of the phenomenon, however, and the great variety of the circumstances under which it occurs, render it difficult for us rightly to interpret its meaning. Perhaps it will help us to understand it if we bear in mind that in a large proportion of cases convulsions in the infant answer to delirium in the adult. In early life the superintendence of the motor power is the chief function of the brain, which has not yet attained to its highest office as the organ of the intellect. Hence the convulsions which you may observe to come on in infancy in the course of some acute diseases, such as inflammation of the lungs, do not import that any new malady has invaded the brain, but simply that the disease is so serious as to disturb the due performance of all the functions of the organism, and of those of the brain in common with the rest. Convulsions at other times take place in infancy not as the result of any abiding disease of the brain, but simply in consequence of those anatomical peculiarities which allow of a much more sudden and more considerable con-

gestion of the cerebral vessels than can occur in the adult. Of this kind are frequently the convulsions that come on during a paroxysm of whooping-cough, which are induced by the impediment to the return of blood from the head, and which cease so soon as that impediment is removed by the child making a deep inspiration. But these two considerations are, it must be owned, by no means adequate to explain the very great frequency of convulsions in children, though they account for much that otherwise would be inexplicable.

The grand reason of their frequency is no doubt to be found in the predominance of the spinal over the cerebral system in early life. In the adult, the controlling power of the brain checks the display of those reflex movements which become at once evident if disease heighten the excitability of the spinal cord, or cuts off the influence of the brain from the paralysed limb, or even if sleep suspend that influence for a season. When the child is born, the brain is but imperfectly developed, its functions are most humble, and convulsions are then so frequent that they are computed to occasion 74 per cent. of all deaths which take place during the first year of existence from diseases of the nervous system. In the next two years the brain more than doubles its weight, and deaths from convulsions sink to nearly a third of their former frequency. In proportion as the brain increases in size, and its structure acquires perfection, and its higher functions become displayed, convulsions grow less and less frequent, until from the 10th to the 15th year they cause less than 3 per cent., and above 15 less than 1 per cent., of the deaths from diseases of the nervous system.*

But a little observation will show you that though convulsions are often the immediate cause of death, yet this fatal event is rare during childhood in comparison with those instances in which they pass off without any serious result, and that in proportion to their frequency they less often betoken serious disease of the brain in the child than in the adult, while any cause which greatly excites the spinal system may be attended

by them. The disturbance of the spinal system, which ushers in fever in the adult, shows itself by shivering. In the child, the same disturbance often shows itself not by shivering but by convulsions, or convulsions may be induced by a constipated state of the bowels, by the presence of worms in the intestinal canal, or of a calculus in the kidney, or by the pressure of a tooth upon the swollen gum. Hence your first duty is, in every case, to ascertain where is the seat of the irritation which excited the nervous system to this tumultuous reaction. If the fits have come on in an advanced stage of some serious disease they are probably only the indications that death is busy at the centres of vitality; if they attacked a child labouring under whooping-cough, they point to a congested state of the brain, the consequence of the impeded circulation through the lungs; if they occurred in a child apparently in perfect health, they probably indicate that the stomach has been overloaded, or that some indigestible article of food has been taken; or, if that be certainly not the case, one of the eruptive fevers is perhaps about to come on, probably either small-pox or scarlatina.

To determine the cause of the convulsions you must acquaint yourself with the history of the child's health for some time before any threatening of them had appeared; you must learn whether the child has ever suffered from worms, whether its digestive functions have long been out of order, or whether the process of dentition, which is now perhaps going on, has been attended with much constitutional disturbance. But besides all these points your inquiries must be still more carefully directed to ascertain whether any cerebral symptoms preceded the attack, and if so, what was their nature, since it is seldom that acute disease of the brain sets in with convulsions. You will sometimes, indeed, be told that the child was well until a convulsive seizure suddenly came on, but on inquiring minutely it will usually be found that some indications of cerebral disease had been present for days, though not sufficiently severe to attract attention. In cases of apoplexy, of intense cerebral congestion, and of phrenitis, convulsions occur at a very early period, but even here extreme drowsiness, great pain in the head, and vomiting, usually precede for a few hours the convulsive seizure. When the brain is thus seriously involved, the recovery from the convulsions is very imperfect, coma perhaps succeeding to them, or the evidence of cerebral disease being so marked as to leave no doubt of the brain being affected. Tubercle sometimes remains for a long time after its deposition in the brain, without giving rise to any well-marked symptoms, its presence being at length announced by a fit of convulsions. These convulsions are

* The first line in this table shows the proportion per cent. of deaths from diseases of the nervous system at different ages, to the deaths from all causes in the metropolis; and the second line the proportion borne by deaths from convulsions to deaths from diseases of the nervous system in general.

Under 1 year	From 1 to 3 years	From 3 to 5 years	Total under 5 years
33	20.9	20	26.4
74.2	27.1	18.1	56
From 5 to 10 years	From 10 to 15 years	Total above 15 years	
15.9	9.3	9.3	
10.8	2.7	.9	

Deduced from 5th Report of Registrar-General.

seldom at first very severe, but you will learn to dread them more than those which assume a more formidable appearance, from noticing that one side is either exclusively affected, or, at least, that there is a marked preponderance of the affection on one side. It is well to bear in mind, too, that convulsions may occur from a want of blood in the brain as well as from its excess, and that the convulsions which come on in some ill-nourished infants may indicate a state of atrophy of the brain.

I must, however, have said enough already to impress upon you the importance of narrowly scrutinising the meaning of every attack of convulsions. But, though so important, there are few tasks more difficult. You have to maintain your own self-composure at a time when all around you have lost theirs; to extract truth as you best may from the imperfect, often exaggerated, accounts of anxious relatives; to observe not only minutely but quickly, and to come to a speedy decision; since while in those cases which require active treatment delay is almost synonymous with death, there is at least as great danger of destroying your patient by that "*nimia diligentia*" to which the prejudices of the nurse and the fears of the friends will often conspire to urge you.

It is well to watch closely the first indications of that disturbance of the nervous system which will be likely to issue in convulsions. And here let me recommend you not to listen with too incredulous an ear to old nurses, who may tell you that a child has been much convulsed, while you find upon inquiry that it has not had any fit. When they say that a child has been much convulsed, they mean usually that it has shown many of the symptoms which forbid an attack of general convulsions. These forebodings are often induced by dyspepsia, or disorder of the bowels in young infants, and have been described by writers under the name of "inward fits." A child thus affected lies as though asleep, winks its imperfectly closed eyes, and twitches the muscles of the face—a movement especially observable about the lips, which are drawn as though into a smile. Sometimes, too, this movement of the mouth is seen during sleep, and poets have told us that it is the "angel's whisper" which makes the babe to smile; a pretty conceit of which we can scarce forgive science for robbing us. If this condition increase, the child breathes with difficulty, its respiration sometimes seems for a moment almost stopped, and a livid ring surrounds the mouth. At every little noise the child wakes up, it makes a gentle moaning, brings up the milk while sleeping, or often passes a great quantity of wind, especially if the abdomen be gently rubbed. When the intestinal disorder is

relieved these symptoms speedily pass away, nor have we much reason to fear general convulsions so long as no more serious forebodings show themselves. There is more cause for apprehension, however, when we see the thumbs drawn into the palm either habitually or during sleep; when the eyes are never more than half closed during sleep; when the twitching of the muscles is no longer confined to the angles of the mouth, but affects the face and extremities; when the child awakes with a sudden start, its face growing flushed or livid, its eyes turning up under the upper eyelid, or the pupils suddenly dilating while the countenance wears an expression of great anxiety or alarm, and the child either utters a shriek or sometimes begins to cry.

When the fit comes on, the muscles of the face twitch, the body is stiff, immovable, and then in a short time, in a state of twitching motion, the head and neck are drawn backwards, and the limbs violently flexed and extended. Sometimes these movements are confined to certain muscles, or are limited to one side. At the same time neither consciousness nor sensation is present. The eye is fixed and does not see, the finger may be passed over it without winking, the pupil is immovably contracted or dilated, the ear is insensible even to loud sounds, the pulse is small, very frequent, often too small and too frequent to be counted; the breathing hurried, laboured, and irregular; the skin bathed in abundant perspiration.

After this condition has lasted for a minute, or ten minutes, or an hour or more, the convulsions cease; and the child either falls asleep, or lies for a short time as if it were bewildered, or bursts into crying, and then returns to its senses, or sinks into a state of coma in which it may either be perfectly motionless, or twitching of some muscles may still continue; or, lastly, it may die in the fit. This, however, is not usual except when the convulsions have come on in subjects exhausted by previous disease, or when they are the result of apoplexy or intense cerebral congestion, such as takes place occasionally in whooping-cough, or when they are associated with that closed state of the larynx which occurs sometimes in spasmodic croup.

This preliminary examination of the symptoms of disturbance of the nervous system has placed us in a position to commence our investigation of the different forms of cerebral disease, on which we will enter in the next lecture.

LECTURES ON
ELECTRICITY AND GALVANISM,
IN THEIR PHYSIOLOGICAL AND THERAPEUTICAL RELATIONS,

*Delivered at the Royal College of Physicians,
in March, 1847,*

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LECTURE III.

Source of animal heat—chemical theories—incompetent—Sir B. Brodie's experiments—Mr. Wilkinson's experiments—Difficulties to chemical theory from the food—from inflammation—Electricity as one source of heat—excitation of heat by muscular contractions—Dr. Paris's researches—Question of connection between electricity, magnetism, and vis nervosa—Theory of vis nervosa—Diamagnetic phenomena—Action of artificial currents on animal tissues—on a piece of nerve—Muscular contractions excited on stopping a current—Dr. M. Hall's electro-genesis—referred to a polar state—Electric tetanus—Centrifugal current excites motion; centripetal, sensation—Excitation of nerves of special sense—Effects of current on the intestinal tube—on muscles—on skin.

HAVING examined the question of the origin of the free electricity of the body, and reviewed the different modes by which the state of normal equilibrium can be disturbed, we passed to the investigation of the possible office of such free electricity, whether existing in a state of current, or in a statical condition. Having criticised some, and briefly glanced at others of the many ingenious electro-physical hypotheses which have been proposed, I shall next endeavour to introduce to your notice some suggestions (for I dare give them no other name) regarding the functions of the electricity of life.

The great interest attached to the question of the source and origin of animal heat has led to numerous and important researches directed with a hope of elucidating the laws of its development, and of discovering its source. It is unnecessary to state that the chemical theory which refers the evolution of animal heat to a sort of slow fire in the system from the union of carbon and pyrogen, derived both from the ingesta and effete tissues, is the one now generally adopted. This theory, whose development we owe to the labours of Laplace and Lavoisier, has been ingeniously illustrated and

much extended by the fertile and brilliant talents of Professor Liebig. This celebrated chemist, although he has not added any new facts of importance to those first announced by the French chemists, has nevertheless rendered it more attractive and more plausible by the collateral support he has given to it in its relation to the chemistry of the body generally. From his calculations, it would appear that the heat generated by the combustion of the carbon in the body in twenty-four hours would be sufficient to raise 136·8 pounds of water from the freezing to the boiling temperature. It must not be forgotten that two trustworthy observers had, prior to the publication of Liebig's views, submitted this matter to the rigid test of experiment. And it is obvious that the mere assumption adopted by Professor Liebig, that the carbon of the food is oxidised in the system, and that from its weight the amount of heat evolved could be calculated, however ingenious and captivating, must give way to sober experiment, if the results are not compatible with the hypothesis. Dulong and Despretz performed their experiments independently of each other, and it is no less remarkable than satisfactory that they arrived at very nearly the same results by actually measuring the amount of heat generated by a warm-blooded animal in a given time. Dulong thus positively proved that the combustion of the carbon of the food would only account for half the caloric evolved by carnivorous, and for seven-tenths of that evolved by herbivorous animals; and even when the hydrogen was taken into account, full one-fourth was left unaccounted for. Laplace, Lavoisier, and Liebig, in adopting the chemical theory of the evolution of animal heat, took no notice whatever of the nervous agency. Now I think no one can deny the influence of the nervous system in aiding, to say the least, the evolution of animal heat. Some have, indeed, gone so far as to regard this heat as a sort of secretion from the nerves. Modern physiologists have so well treated of this matter, and have so satisfactorily shown that we must not neglect nervous agency in explaining the generation of heat, that it is unnecessary for me to allude to it: the pages of Dr. Baly's excellent edition of Müller's great work, and the volumes of Dr. Carpenter, have made this subject familiar to all. Sir Benjamin Brodie long ago demonstrated the fact, that when an animal was killed by dividing the spinal marrow, and artificial respiration maintained, all the chemical changes went on as usual; the venous blood became arterialized in the lungs, the heart continued to beat with vigour, but in spite of all the elements required for the chemical theory of respiration and animal heat being present,

the body cooled actually quicker than that of another animal killed at the same time, but not submitted to the influence of artificial respiration. These experiments were many times repeated on several animals, and invariably with similar results. I think no one can read Sir Benjamin's paper in the Philosophical Transactions of the Royal Society for 1811, without regarding them as most conclusive. I am aware that experiments since performed by others have been said to invalidate some of the conclusions from these researches; but even if this be admitted, still his main facts remain uncontroverted, and, as Müller has observed, are convincing; they have besides been corroborated by the more recent researches of Chausat. There is indeed, in the present day, too great a tendency in our profession to rashly adopt opinions tending to oppose previously received views; there may be something in the charm of novelty, but it does not necessarily follow that the most recent statements are of greater value than older ones, unless they are supported by the authority of more careful observation and more extended experience.

The amount of heat required to keep up the temperature of the body to its healthy average is more considerable than, on a superficial view, might appear necessary, and is well illustrated by Mr. Wilkinson's experiments, performed more than forty years ago. This gentleman placed in a large vessel a quantity of water heated to 98° , of about his own bulk, in all twenty gallons, the thermometer standing at the time of the experiment at 66° , the temperature of the water being consequently 32° higher than that of the atmosphere. In forty minutes the water cooled to 90° , having lost eight degrees of heat; but to restore its former temperature required the addition of thirty pounds of water heated to 212° , and to keep it at 98° , or the temperature of the body, the addition of two pints of boiling water each minute was absolutely necessary. On repeating this experiment when the temperature of the air was 51° , it required the addition of $4\frac{1}{2}$ pints of boiling water per minute to keep it up to the temperature of the body. What must, then, be the amount of heat required to preserve the normal temperature of the human body when exposed to the frozen air of Siberia or Spitzbergen? On the hypothesis of Professor Liebig, the difficulty is supposed to be met by the larger proportion of carbonised food, as fats and oils, consumed by the natives of the frigid zones, thus supplying more fuel for the generation of animal heat. This, however, does not in any way explain the difficulty; for an Englishman traversing the polar ice will have his body of the same temperature as the Greenlander, and still

without partaking of the train-oil in which his companion luxuriates. Again, the natives of more sunny climes often partake of more fatty and greasy matters than the inhabitant of cooler climes; the Sicilian and Neapolitan far exceed the Englishman in the mass of oils and grease they devour, and yet we have no evidence that their temperature is influenced by it. The rein-deer seeks its meal of lichens beneath their snowy covering, and yet on this nearly fat-free food maintains its temperature. Again, this theory does not explain how a person preserves the same temperature, although perhaps in the course of a few days, and under similar circumstances, he is exposed to all the range of temperature the variable climate of Britain can subject him to. All these facts (for they are facts, and not assumptions) shew that the mere act of the generation of carbonic acid and water quite fails to account for more than a part of the animal heat.

Pathology, too, furnishes some difficulties to the admission of the combustion theory as the sole exponent of the evolution of heat. Thus, in local inflammations, as of a small gland, ending in a few days by resolution, unaccompanied by any evident destruction of tissue, a large quantity of heat is evolved, which appears to me not to admit of explanation without referring to something beyond the chemical theory. I find a curious observation on this matter placed on record by Prof. Thomson, of Glasgow, in the Annals of Philosophy for 1813. This gentleman took cold from sitting in wet shoes, and the result was a throbbing pain in the right groin, and an inflammatory swelling of the inguinal glands. He constantly applied, for four days successively, cloths dipped in cold water, removing them when they became dry and warm; the swelling then disappeared, and the doctor got well. He, however, calculated the amount of heat evolved by this small inflamed and painful spot, and found that it was sufficient to have raised eight and a half pounds of water from the temperature of 40° to a boiling heat.

As there remains a certain portion of animal heat to be accounted for beyond that which the oxidation-theory will explain, I venture to throw it out as at least a probable hypothesis that this may be one of the functions of the electricity generated by the chemical going on in the organism. Admitting the existence of electric currents, which I think, from the data now collected, cannot be denied, they must of necessity traverse some of the tissues of the body. We know, from Matteucci's researches, that they traverse the muscular substance, and have seen how probable it is, that if not really transmitted along the nerves, such currents are

propagated under their influence. Now, if such currents, however weak, do thus traverse animal structures, they must of necessity elevate their temperature: they cannot pass through them without doing so. You have seen how readily a comparatively weak current will ignite a platinum wire; but it may be said this wire is a good conductor, and allows electric discharge to take place readily through it; but no such metallic conductors exist in the body. This is true; but it really appears that the less perfect the conductor—the greater the obstruction (within certain limits) opposed to the passage of the current—the more readily are calorific vibrations produced. Nay more, if electricity possesses high tension, and is small in quantity, it develops but little heat, seeming to pass with too great rapidity to disturb the inertia of the interstitial ether; just as a bullet fired from a rifle will perforate, without moving, an open door, whilst the same bullet thrown from the hand would instantly cause it to move on its hinges. Thus the really badly conducting nature of the animal tissues better fits them for becoming elevated in temperature by the passage of a current.

On the table before me is placed some gunpowder, and I transmit the charge of an electric jar through it by means of a good conductor—a piece of copper wire: the powder is scattered about; from the violence of the discharge, but escapes combustion. I will now send a discharge through some more gunpowder; but, instead of using a good conductor, will cause the electricity to traverse a piece of string moistened with water. In an instant you see the gunpowder explode. The piece of wet string here undoubtedly acts by retarding the velocity of the discharge, and thus giving time for the excitation of calorific vibrations. A piece of muscle or nerve would have produced similar results. We do not, however, meet in the human body with electricity of such high tension as that contained in a charged jar; but there is no difficulty in proving that the same law obtains with electricity evolved by chemical action. On the table are two glasses connected by a bent piece of palladium: one of these is filled with an excellent conducting fluid—mercury; the other with a weak solution of common salt, to represent an animal secretion. I now cause a current of electricity, evolved by the decomposition of some nitric acid in these cells, to traverse these two fluids, and you will soon observe that the water will nearly boil, whilst the mercury will be scarcely warm. On bringing a piece of phosphorus near the latter, it is unaffected; but the moment it touches the former, it bursts into flame. From these and other analogous facts, I think it is rendered probable that

the amount of animal heat generated in the body, *plus* that which can be accounted for by the combustion theory, is really excited by the passage of the electric currents, whose existence we know has been positively made out in the different tissues of the body. In this way I conceive the heat produced by muscular contraction can be fully accounted for. By means of a thermo-electric combination, not thicker than an ordinary acupuncture needle, which could be easily introduced into a limb, M. Becquerel found, that, on contracting the muscle into which it was inserted, as in the case of the biceps, by bending the arm, an elevation of temperature occurred sufficient to cause the needles of a galvanometer to traverse an arc of 0.5. This generation of heat could not be accounted for by a greater determination of blood to the muscle; for, during the act of its contraction, circulation is retarded through it; nor do I see any means of accounting for it without assuming some mechanical cause, unless it be admitted, that, to effect the violent contraction, a greater amount of nervous energy is developed in the nervous fibrillæ, and disturbs the electric equilibrium of the surrounding tissues, just as occurs when a magnet is thrust into a coil of wire; the circulation of such currents in the muscular structure would most certainly generate heat, just as they do when traversing water or other imperfect conductors. In this manner I presume we can explain the manner in which we constantly observe coachmen in the winter thawing their half-frozen arms by a series of violent contractions of those limbs.

It is well known that the temperature of a palsied limb is inferior to that of a sound one. Mr. Earle found the temperature of a paralysed arm to be 70°, whilst that of the sound one was 92°; but, on electrifying the affected limb, the temperature rose to 77°.

Although not immediately connected with the subject now under consideration, I could not, without regret, avoid drawing the attention of the members of the College to the very ingenious and, to my mind, very probable suggestion made eight-and-thirty years ago by our present illustrious President, regarding what may be denominated a mode of economising a portion of the animal heat. From a series of experiments, he found that, as a general rule, the capacity of the fluid excretions for caloric was less than that of the blood from which they were secreted: in other words, that a smaller amount of heat was required to raise them to the same temperature. He thus rendered it probable that, whenever the liver separated bile, and the kidneys urine, from the blood, these new fluids, although possessing the same temperature as the pabulum from which they were formed, yet really contained a less

abstract proportion of caloric, and, as a necessary result, a certain amount of heat would be rendered sensible, and must materially aid in preserving the temperature of the body. This opinion, alike remarkable for its beauty and simplicity, has been most unaccountably overlooked by most late writers on physiology, for the experiment on which it was based remains unaffected by the sources of error which have been shewn to invalidate the nearly contemporaneous hypothesis of Dr. Crawford.

In concluding my remarks on the physiological relations of electricity, I feel that, although a probable, yet by no means a positive, case is made out for its being regarded as the nervous agent, simply from the fact that we have not yet actually intercepted it in its presumed route through the nerves; still, I do not think that all the objections which have from time to time been urged against such a view are by any means tenable. We do not contend for the existence of currents of high tension in the body, and hence the objection that nervous force is stopped by placing a ligature on the nerve, whilst electricity is not, falls to the ground; for, as I have already shewn, such currents, if of low tension, and the nerve circulated, are really thus stopped by a ligature. Another objection appears at first sight more plausible: if the trunk of a nerve be divided in a living animal, we know that the limb to which it is distributed becomes paralysed. It has been said, that, if the *vis nervosa* and electricity were identical, the paralysis ought to disappear on uniting the divided ends of the nerve by means of a piece of wire or other conductor of electricity, which is well known not to be the case. In reply to this and other such objections, the same answer may be given, that it is true, that, although we can prove the existence of electric currents in many of the tissues of the body, yet it is not contended that such currents are really identical with *vis nervosa*, but all that is assumed is, that they bear to each other the relation of cause and effect. Then an electric current traversing this helix of wire makes the iron bar placed in its centre a powerful magnet; yet no one contends that electricity and magnetism are, as forces, one and the same thing, but merely that they bear to each other the ratio of cause and effect. If I connect the magnet thus made with another bar of iron by means of a copper wire or any other conductor of electricity, it does not become a magnet. Nor does any one express surprise at this, because, although electricity can traverse such a conductor, the new force we have developed, *magnetism*, cannot. Yet this is an analogous case to the objection urged against the idea of nervous force

being generated by electricity, because we cannot renew it in a paralysed limb by uniting a divided nerve by means of a piece of wire. I confess I have a presentiment that one of the greatest philosophers of the age was correct when he remarked, if magnetism be a higher relation of force than electricity, nervous power may be one still more exalted and within the reach of experiment. I am willing to admit that we do not possess a tittle of evidence to prove the existence of electric currents in the nerves themselves, although we know most positively that such currents exist in most other of the animal tissues, and that, further, in certain cases, their existence depends upon the integrity of the nerves: witness the cessation of the gastro-hepatic current upon the division of the pneumo-gastric and sympathetic nerves. Taking for a moment the analogy presented by the electro-magnet, a current of electricity of low tension traverses a wire arranged at right angles to the long axis of bars of soft iron, and it instantly becomes a magnet of immense power; in an instant you see the bundle of iron wire suspended over the bars start as it were into life, and after a few hasty vibrations assume a fixed position over the poles; there is no visible connection between them, and yet if I forcibly press one end of the bundle of wire I feel an obstacle to moving it, and on resuming the force applied it instantly returns to its position. On allowing the current to cease, the induced power vanishes, and the suspended wires obey the tension of the thread. There is, in fact, a radiant power emanating from the ends of these bars when the electricity traverses the wire cord. The directions of such lines of force are beautifully pointed out by scattering some iron filings on a piece of paper held over the magnet thus made by the current. Thus we can prove the development of a force in these bars of iron under the influence of electricity, albeit none of that agent entered the bars. But this is not all; the magnetism thus excited by electricity can, in its turn, re-excite that agent. There is no difficulty in proving this in a most unequivocal manner. Thus I will excite magnetism in the bars before me, connect the poles with a bar of soft iron, and turn off the electric current. The magnetism will be in part retained so long as the poles are thus connected, but the moment I slide off the armature the magnetism vanishes, almost all polarity having disappeared. Now during the restoration of this magnetic equilibrium and return of the bars to their passive condition, a contemporaneous disturbance of the electric equilibrium of the convolutions of wire wound on the iron bars occur. I will now render the bars magnetic, connect the poles with

the armature, break the battery connections, and place the terminal wires of the coil surrounding the bars in connection with the large galvanometer at the other end of the table. The needle is now at rest. By sliding the armature off the poles, I destroy the magnetism, and in an instant the galvanometer needle moves on its axis through an arc of 90 degrees, demonstrating the truth of the assertion I made. Thus, then, an electric current excites magnetic force, and a magnetic current in its turn excites electricity.

Let us, then, see what light analogy can throw on the connection of electricity with the nervous influences; and I would ask—*May not one of the uses of the electricity so freely developed in the body, especially that existing in the muscles, be to excite in the nervous cords the vis nervosa, just as currents, if passing near a bar of iron at right angles to its axis, excite magnetism? May not this vis nervosa or nervous polarity excite the contraction of a muscle without actual contact with its fibres (for we know that the fibrillæ of nerves lie upon, but do not communicate with the ultimate fibres of muscle), just as the invisible lines of force emanating from the bars of a magnet act upon the suspended bundles of wire or iron filings? Lastly, may not such nervous force again induce electric currents in any glandular or other organs, just as magnetism in motion will re-excite electricity? thus accounting for what cannot be questioned, the existence of electric currents in certain organs, exclusively excited by, or depending for their existence upon, the integrity of the nervous influence of the part.*

I feel that all this is mere hypothesis, but I think it a plausible and probable one, and believing that the *vis nervosa* is not electricity, although developed under its influence: I suggest it on the strong grounds of analogy, with a firm expectation that the time will come when some such view will be shewn to be correct. Let me now say one word regarding the last of the host of valuable contributions made by our illustrious countryman, Dr. Faraday, to experimental science. He has shown that this excited power, this effect of electricity, this magnetism, is an agent of far more universal sway than was ever previously guessed at. The lines of force emanating from these poles are potent in their effects upon all forms of solid matters. Some metals, as iron, nickel, cobalt, and paper, cork, and even glass, among other bodies, obey the direct attraction of the poles, and if free to move arrange themselves in the direction of these lines of force, and take up their place in a plane connecting the two poles: such bodies are essentially then magnetic. But there

are other bodies, including the largest proportion of all varieties of natural substances, which are repelled instead of being attracted by these poles, and when free to move arrange themselves in a direction at right angles to the magnetic lines of force, as in a plane perpendicular to one connecting the two poles. I will place in the little cradle suspended to the slender thread before me, a bar of iron; I now turn on the electric current, and in an instant the iron places itself in a line connecting the two poles. But if I break connection with the source of electricity, and replace the bar of iron by one of bismuth, it will remain quiet, but the instant I render the bars magnetic the bismuth will begin to move, and will rest in a direction at right angles to the poles. Such bodies are termed by Dr. Faraday diamagnetics. Thus iron and magnetic bodies, being equally attracted, point with regard to the poles of a magnet north and south, whilst bismuth and diamagnetics, being equally repelled, point east and west. But the most remarkable effect flowing from these discoveries is, that all organised bodies are thus acted upon by the magnet: not only will a piece of wood, a leaf, or an apple, thus submit to its influence, but if a man were fully suspended between the poles of a sufficiently large magnet, he too would obey its influence, and point east and west: who can predict what wondrous results may flow from this last great contribution to natural science?

We have next to examine the direct and indirect influence of electric currents artificially exerted; for it is obvious that by extending our knowledge of such actions we may expect not only better to understand and appreciate the effects of such currents upon the human body, but be better enabled to recognise their functions when generated by the functions of the living fabric, independent of external and artificial causes. The successful examination of this question can only be looked for when weak currents of electricity are employed, as by using those of high tension the mechanical violence produced by their traversing organised structures almost completely masks their physiological effects. Experiments of this kind are generally best made on those martyrs to science, the batrachian tribe, for frogs and toads after decapitation (a precaution which divests such researches of the charge of cruelty) so long preserve their irritability to stimulants, that they are better fitted for such observations than warm-blooded animals.

Galvani's classic experiment I have already described and repeated, and I have now to draw your attention to the curious fact, that a current of electricity need not, as he supposed, traverse the whole extent

of a nerve to its distribution in the muscles, to prove contraction. If merely a portion of the trunks of a nerve be included in the circuit the contractions will occur. I have before me the prepared leg of a frog, and I will cause a current from a pair of copper and zinc plates to traverse half an inch of the sciatic nerve, taking care that it shall not enter the femoral muscles: immediately, as you see, contractions occur. This experiment is one of no little physiological importance, as it would appear to point out a further relation between the so-called *vis nervosa* and electricity; as the disturbance of the electric equilibrium of the nerve would be the necessary result of the passage of this limited current.

I will now cause a current of electricity to traverse the frog's leg, allowing the positive electricity to enter the nerve and leave at the toes. As might be expected, contractions instantly occur, but as instantly cease, although the electricity continues still to traverse the limb, as shown by the needle of the galvanometer. I now break contact with the battery, and again contractions occur, although, as indicated by the galvanometer, the current had ceased to traverse the limb. It is evident from this experiment that the nerves must undergo some change during the passage of the current,—a change probably connected with an altered arrangement of some of their organic elements, which for the time paralyses these structures to the influence of the current. On arresting the passage of the electricity, the coercing influence of this agent ceases, and the return of the organic elements of the structure produces the second contraction. If, however, the current be allowed to traverse the nerve for twenty minutes or longer, no contraction will be manifested on breaking contact, the change produced in the structures being permanent, and they are left paralysed to the further influence of the agent.

These secondary contractions in the frog admit in part of an explanation by supposing that under the coercing influence of the current some change occurs in the normal electricity of the tissues traversed by it. This may be rendered clearer by assuming that the ultimate particles of the animal electricity are spherical, and like those of magnetism, as conventionally assumed, have opposite properties on their two sides, one hemisphere being positive and the other negative. Thus, if P and N respectively indicate these hemispheres, the particles must, to be perfectly neutral, be arranged thus:—

$$\begin{array}{c} NP + NP + NP + NP \\ PN + PN + PN + PN \end{array}$$

Now on an artificial electric traversing

such an arrangement, one of these atoms must undergo a semi-revolution on their own axes, and the following polar condition would be produced—

$$\begin{array}{c} PN + PN + PN + PN \\ PN + PN + PN + PN, \end{array}$$

and would continue so long as they were under the coercing influence of the current. The instant, however, it ceased, the similar sides of the electric atoms would repel each other, and a semi-revolution would occur, causing eventually the oppositely electrified hemispheres to be in contact, and thus the previous state would be restored. A too long continuance of the current would render this state one of permanent paralysis, not only to the mere passive effect of arresting the current, but to a repetition of the current itself. Thus, in a frog's leg, long submitted to such an influence, contractions cannot be produced by the application of silver and zinc coating to its nerves and muscles. It was, however, discovered by Volta that unless positive mechanical injury had occurred, the sensitive state of the structures could be restored by allowing a current to traverse the limb in the opposite direction to the first: just what might be expected on this hypothesis, for this current would restore the previous coerced atoms to their normal condition. Of course this reasoning is *quoad* the organised structures completely hypothetical, but it is absolutely demonstrable in the case of magnetism,—a force probably, as I have before hinted, more allied to the nervous power than any other. For we can thus induce magnetic polarity, destroy it, and reverse it in a bar of iron at will. Now in the living animal the vital force is generally competent to immediately restore the paralysed state produced by a continued current, and even in the leg of a dead frog it is often restored by repose, unless, as I have already shown, it be too long continued.

In the human subject a phenomenon precisely analogous is often observed; for in cases of paralysis of motion, when an electric current has been applied sufficiently strong to produce pretty powerful contractions of the muscles, the patient is sensible, often for hours afterwards, of thrilling and convulsive motions and sensations in the paralysed part, often closely resembling the immediate effects of the current. This is well shown in cases of paralysis of the portio dura.

It is, however, quite certain that some physical change in the ponderable atoms traversed by the current does really occur independently of those which we have assumed to be produced in the electric atoms. Such a change, although invisible to the

naked eye, can, however, be readily shown to be affected by a very remarkable experiment.

Here is the ordinary apparatus employed for collecting the elements of water when separated by the electric current. On connecting it with the battery, torrents of hydrogen and oxygen are given off from the platinum plates, and rise in the tubes placed over them. You can readily distinguish the oxygen from the hydrogen by the respective bulks of the gases, for, as you are aware, two volumes of hydrogen and one of oxygen are evolved from every atom of water. I will now separate the wires from the battery, and refill the tubes with water acidulated with sulphuric acid, and prove to you the curious fact that although the platinum plates seem unaffected by the operation, still that they have undergone a remarkable change, which they retain even after being washed with boiling water. You know that if a piece of amalgamated zinc be plunged into dilute sulphuric acid, no visible change occurs until some electro-negative metal, as platinum, is brought in contact with it, when bubbles of hydrogen will, as I now show you, be evolved from the platinum, the zinc slowly undergoing solution; the hydrogen being evolved at the platinum surface, whilst the oxygen combines with the zinc under the influences of the electric current evolved. The physical change experienced by the platinum plates of the apparatus used for decomposing water is of such a character, that if I repeat the experiment I have just shown you with it, hydrogen will be evolved from both platinum plates, but in nearly double the volume from one as from the other. This remarkable experiment I think most clearly proves the existence of some physical change produced by the previously electric current in the surface of the refractory metals of which the plates are composed, and therefore renders the admission of an analogous change in the more yielding organised structures less difficult.

Dr. Marshall Hall has recently described, in a paper read before the Royal Society, some phenomena of a character apparently to me identical with those just described. This laborious cultivator of physiological science allowed a weak current to traverse the nerves of a frog's leg, and thus to reach the muscles, for some time; then on stopping the current, and connecting the nerves and muscles with a conductor, contractions occurred. Dr. Hall explained this (at least so far as I could follow his paper, which was read under every possible disadvantage) by assuming an electro-genic power in the nerves themselves. I confess I doubt the necessity for such a supposition, for the contraction of the muscles on making the

connection would be sufficiently accounted for by the restoration of the electric equilibrium of the tissues disturbed by the primary current. Indeed, the result of the well-known experiment of passing a current through a piece of wet paper instead of a frog, seems precisely the same. If a band of paper be moistened with water, and employed to connect the two ends of a battery for some minutes, it will, on removal, be found in a polar state, one end being negative, the other positive, and on connecting the ends with a galvanometer the needles instantly traverse. I regard Dr. Hall's frog in the same condition as the band of paper, only being provided with irritable fibre furnishes a test of its own electricity, and renders the galvanometer unnecessary.

If a sufficiently powerful current traverses the leg of a frog in such a manner as to have its direction alternately reversed, the limb is not merely paralysed to the subsequent influences of a weaker current, but is thrown into a state of tetanic spasm, and on the cessation of the currents is left perfectly rigid, and quite insensible to the stimulus of a weak current. Connected with this observation, a remark has been recorded by Richerand, that after severe convulsions the muscles are left in a state but feebly sensible to the stimulus of an electric current. The production of this artificial tetanus may be readily shown by transmitting alternately currents from the apparatus before you, and whose construction will occupy our attention in a future lecture. The legs of the frog are now, as you see, in a state of intense tetanic convulsion; the toes are extended as if the dead limbs were suffering tortures, and on testing them with the zinc and silver plates they remain unaffected. Mere direct currents, if long continued and energetic, will produce this tetanic state, and then, like the paralysed state before referred to, will be generally removed by changing the direction of the current: indeed, in frogs rendered tetanic with *musserica* the spasms ceased during the pressure of an artificial current, and Matteucci noticed the same result in the case of a tetanic patient.

The effects of an electric current upon a nerve, and consequently on the muscles it supplies, remarkably differ according to the direction it pursues. This observation is one of the greatest interest and importance, and in repeating it, the only precaution that is necessary to observe all the phenomena I am about to describe, is that already pointed out, of using as weak a current as possible. I shall now make use of an apparatus consisting of a single pair of copper and zinc plates excited by hydrochloric acid greatly diluted.

Muscular contractions are developed in

the most perfect manner when the positive current travels the limb in the presumed direction of the *vis nervosa*: hence, in repeating Galvani's experiment, the contractions are more powerful when the zinc is connected with the lumbar nerves, and the copper or silver plate with the muscles of the toes, because in this arrangement the positive current traverses the arc from the copper to the zinc, and then down the limb back to the copper. If care be taken to keep the leg of the frog sufficiently long to diminish its irritability, no contractions whatever will ensue on making contact between the zinc and copper plates if their direction be reversed; but in this case contractions ensue on breaking contact, from the rearrangement of the normal electricity in the direction of the *vis nervosa*. In speaking of these currents I shall for the future speak of a positive one, when moving in the direction of the nervous ramifications, as a *direct*, and when in the opposite direction as an *indirect* current.

It seems quite certain that *ceteris paribus* nerves only convey the influence of a current in a given and definite direction, and that a mixed nerve of sensation and voluntary motion will only obey the stimulus of the electricity to excite contractions when acted upon by a direct current,—an indirect current exciting only painful sensations and no motion.

If in a living frog the legs be separated from the trunk by the division of all intervening structure except the sciatic nerves, by which communication is kept up between the several portions, and a current be transmitted, very instructive results bearing upon these facts are observed. For when a direct current is allowed to traverse the body of the animal, along the nerves to the legs, violent convulsions occur, whilst if the direction of it be reversed no motion whatever occurs, but the frog will express its sense of pain by audible croaking. The application of the galvanic stimulus thus lends much support to the opinion of the really double structure of the so-called nerves of sensation and voluntary motion, for we have seen that when travelling in the direction of the ramification of the nerves a centrifugal motion is excited, and when in the opposite direction a centripetal sensation is also excited, and not the slightest motion occurs if all communication with the spine is cut off; a fact which admits of a ready explanation by the views of Dr. Marshall Hall, to whose patience, ingenuity, and talent, this portion of physiology stands so deeply indebted.

Matteucci and Laueget have shewn that this effect of electricity may be conveniently applied to test the nature of a particular nerve, as far as its motion and sensitive function is concerned, for if a current of low ten-

sion traverse a spinal nerve after the careful division of its anterior root, not the slightest motion ensues, whilst if the other root only were divided, contractions would instantly occur.

When a current is allowed to act upon the nerves of special sense, it seems simply to produce the effect of exciting their proper function. Thus if the wires conveying a current be allowed to pass from one ear to the other, a loud noise is audible; if through the eyes, flashes of light are seen; if the tongue, an acrid taste, &c. According to Grapengisser, these results are always best noticed when the positive current enters the organ: thus on making contact, in that ear where the positive electricity enters, the loudest sound is heard, whilst on breaking connection with the battery the sound is most audible in the other ear: just what might have been expected, from the observations already made on the action of currents on nerves. It must not be supposed that the feeble currents of electricity we have employed are alone active on frogs, for effects sufficiently energetic are produced by them on warm-blooded animals, and I hope to produce evidence, when speaking of the medical application of these agents, to shew that important remedial effects may be thus developed: I shall now content myself with adducing two or three recorded facts in illustration of this position.

Aldini placed a zinc plate in the mouth of a recently killed ox, and a piece of silver in the anus; on connecting them with a piece of wire the abdominal muscles were convulsed, and a discharge of feces occurred. This curious experiment was repeated by Achard of Berlin on himself; he experienced, almost immediately, pain in the pelvis, and soon after the contents of the bowels escaped. Humboldt tried this experiment with a linnet which was lying on its back exhausted, and in fact dying; no result occurred until the metal placed in its beak was connected with that in the cloaca, when, in an instant, the bird appeared to be resuscitated; it opened its eyes, stood up, flapped its wings, breathed for eight minutes, and then quietly died. He then tried an experiment on himself by blistering a small surface over both deltoid muscles, placing on the raw surfaces plates of zinc and silver. On connecting the metal with a conductor a distinct shock and contraction of the muscles was felt, followed soon after by others rather weaker. He also observed that the blister to which the silver was applied soon healed up, whilst that to which the zinc was applied discharged for a long time, and if previously nearly dry before the application of the zinc, had its discharge renewed. I shall have occasion soon to allude to some very remarkable consequences I lately observed.

on repeating this experiment in some patients in the wards of the hospital.

The effects produced by electricity upon the different tissues of the living body will of course vary with its intensity and quantity, for if these be at all considerable, convulsions and contractions, more or less violent, are excited in all muscular structures, whether composed of striped or plain fibres, whether under the dominion of the will or not; these movements being accompanied by painful sensations if the part acted upon by the electricity be supplied with nerves of sensation. If a series of powerful currents, rapidly succeeding each other, be transmitted through a limb, a state of complete tetanic convulsion is excited, accompanied, especially if the currents be alternately reversed, with sensations of intense pain. Thus, if any person, having his hands moistened with water, grasp the conductors of the apparatus before me, a rapidly repeated series of alternating currents pass through his arms, contracting the muscles so forcibly with almost tetanic rigidity, that it would be impossible to unclasp the hands and leave hold of the conductors. This state is accompanied by the most intensely painful sensations; so severe, indeed, that it was once soberly suggested by the contriver of one of these machines for adoption in the army as a substitute for military flogging. If the influence of the electricity be limited to a particular muscle, contraction of that organ will alone ensue; thus if the charge of a Leyden jar be transmitted from the scrobiculus cordis to the back it will only influence the diaphragm, causing that muscle to contract violently, and expelling the air from the lungs with a loud shout.

When a current of electricity is made to influence the skin as exclusively as possible, great congestion of the cutaneous capillaries is produced, the surface becoming vividly reddened. If electricity of tension is employed, as by drawing large sparks from a person seated on an insulating chair, not only is this erythematous state produced, but a copious eruption of white papulæ, or rather wheals, is produced, forming indeed a good specimen of *Urticaria fibrils*.

CÆSAREAN SECTION.

THE statistics of the Cæsarean operation at present yield the following results. It has been performed in 378 cases, of which trustworthy accounts have been given. In 145 of these cases the women recovered; in 233 they died; or the recoveries were in the proportion of 38 per cent., or as one in 2·6 cases. The fate of 318 children is mentioned, of whom 219 were saved, 99 were lost, or the child survived in 68 per cent., or in rather more than 2 cases out of 3.—*Dr. West's Report on Midwifery, 1845-6.*

THE CROONIAN LECTURES,

Delivered at the College of Physicians, in February, 1847,

By GEORGE BUDD, M.D. F.R.S.
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LECTURE I.

Diseases of the Stomach.

MR. PRESIDENT,—I have chosen diseases of the stomach as the subject of the lectures which you have done me the honour to ask me to deliver to the College.

It would be difficult to find in the whole range of pathology a subject of more obvious importance. The stomach not only receives and contains the crude materials for the nourishment of the body, but, by the peculiar fluid which it secretes, it dissolves those materials and prepares them for conversion into the living blood. Any serious disorder of its functions must necessarily vitiate all the after-processes, and pollute, or divert, the life-stream at its source. To ensure, then, the proper nutrition of the body, and, consequently, the due maintenance of its manifold powers, the functions of the stomach need to be rightly performed. But in man they are liable to be disordered from various causes, and in various ways; so that probably no diseases, as a class, are more frequently brought under our notice than the diseases of this organ.

Notwithstanding their frequency, however, and their obvious importance, and the great attention which has in consequence been paid to them by physicians in all times, our knowledge of them, it must be confessed, is still very scanty and vague. The reason of this is, that the study of these diseases is extremely difficult. Considering such of them only as are dependent on some appreciable change of structure, we have great impediments to encounter.

Where the disease is not such as to cause a palpable tumor, we have no direct means of ascertaining the physical condition of the organ, while the sick man is living. The stomach is not visible, like parts on the surface; it cannot be explored by the sense of hearing, like the organs within the chest; its outline can seldom be distinctly felt, like that of the liver or the spleen; and its secretions are not poured out separately and unmixed for our inspection, like those of the kidney. We are obliged to infer the nature of its diseases almost wholly from the functional disturbance they occasion. But the functions of the stomach are more readily deranged than those of any other secreting organ, and by a greater variety of conditions. Irritation of the brain, the passing of a gall-stone, obstruction of the bowels, disease

of the kidney or of the uterus, will cause vomiting as frequent and distressing as organic disease of the stomach itself. Any sudden emotion, a febrile condition however induced, various unhealthy conditions of the blood,—will suspend or derange the secretion of its solvent juice.

Again, the structural diseases of the stomach,—at least, of its mucous membrane,—have been less elucidated by morbid anatomy than those of most other organs. When inflammation, for example, occurs in solid organs, as the brain, the liver, or the kidney,—or in the closed sacs of the body, as the peritoneum, or the pleura,—where it does not immediately destroy life, it leaves, for the most part, some permanent traces. If the body be examined at any future time, these traces are seen, and understood. It is not so with mucous membranes. The effusions to which inflammation gives rise are here poured out on an open surface, and discharged from the body; and often, even when the disease is of long continuance, no permanent changes of structure result,—at least, no changes which our senses can appreciate.

This remark applies, indeed, to the mucous membrane of the air-tubes, or of the bladder and urethra, as well as to that of the stomach. But when inflammation occurs in the air-tubes, or in the urethra, the matters effused are thrown off unmixed for our inspection, and from their varying characters the progress or decline of the malady may be traced. The secretions to which inflammation of the stomach gives rise are, on the contrary, mixed with various matters,—with whatever is taken as food, or drink, or phlegm; and with the different secretions which are poured into the stomach and intestines to work those important changes in the food in which digestion consists.

But, in the study of these diseases, there is yet another difficulty. The stomach presents various appearances, independent of disease,—according to the condition of the person when death occurred, and the time of year, and the mode of death, and the time after death at which the body is examined; and several of these appearances are very like the products of disease, and have, indeed, been generally confounded with them.

Before, then, we can discriminate the changes of structure which are due to disease, we must be able to recognise, and rightly to interpret, these other changes that occur without it. By far the most important of these is the change which the stomach undergoes after death from the solvent action of its own proper juice. This change exists in greater or less degree in a large proportion of the bodies we examine;

and unless we are familiar with its characters, it is impossible that we can distinguish the effects of inflammation, and other changes of nutrition of the mucous membrane. A study of it is not only a necessary preliminary to the study of the diseases of the mucous membrane, but it also throws light on the circumstances which promote the secretion of the gastric juice, and on various functional disorders to which the stomach is liable.

It is to this change, therefore, that I shall first call your attention.

I need not remind you that it was John Hunter who first announced that the stomach may be dissolved or digested after death, by the fluid which itself secreted.

Earlier pathologists, from Morgagni downwards, had noticed extreme softening of the mucous membrane,—indeed, of all the tissues, in the splenic end of the stomach,—but they had all regarded this change as the result of disease. Hunter was led to the discovery of its real nature by finding it in an extreme degree in some persons killed by accident, in the midst of health; in whom, therefore, it could not be thus explained. He says:—"The first time that I had occasion to observe this appearance in such as died of violence and suddenly, and in whom, therefore, I could not easily suppose it to be the effect of disease, was in a man who had his skull fractured, and was killed outright, by one blow of a poker. Just before this accident he had been in perfect health, and had taken a hearty supper of cold meat, cheese, bread, and ale. Upon opening the abdomen, I found that the stomach, though it still contained a good deal, was dissolved at its great end, and a considerable part of its contents lay loose in the general cavity of the belly. This appearance puzzled me much.

"The second time was at St. George's Hospital, in a man who died a few hours after receiving a blow on his head which fractured his skull.

"From these two cases, among various conjectures about so strange an appearance, I began to suspect it might be peculiar to cases of fractured skull; and therefore, whenever I had an opportunity, I examined the stomach of every person who died from that accident; but I found many of them which had not this appearance.

"I afterwards met with the same appearance in a man who had been hanged."

In some of the cases that fell under the observation of Hunter, the digestive action had extended much further than through the stomach. After having dissolved the stomach at the usual place, it had partly dissolved the adjacent side of the spleen, and had dissolved the adjacent portion of the

diaphragm quite through, so that the contents of the stomach were found in the cavity of the chest, and had even affected in a slight degree the surface of the lung at that part.

Hunter found softening of the stomach of the same kind in some of the animals that were the subjects of his experiments on digestion, when he did not open them immediately after death. These animals, after having been fed with various kinds of food, were all killed at different stages in the process of digestion.

He procured also the stomachs of a great variety of fish, which usually die from violence, in a state of perfect health, and with their stomachs full; and in many of these he found the digesting part of the stomach in the same dissolved state as the digested part of the food.

Hunter found that digestion of the stomach after death is most common, and takes place in the highest degree, in persons who die violent deaths; but that it occurs very frequently, though then usually in less degree, where death arrives more slowly from disease. He says, indeed, "There are few dead bodies in which the stomach at its great end is not in some degree digested; and one who is acquainted with dissections can easily trace these gradations."

These observations of Hunter excited great interest at the time, not only from their novelty and startling character, but also from the new views they unfolded of the causes of digestion, which were then very imperfectly understood. They showed, indeed, conclusively, as the sagacious mind of Hunter at once perceived, that digestion depends essentially on something secreted by the coats of the stomach, and poured into its cavity; and that this solvent menstruum, this gastric juice, though indebted to the stomach for its secretion, is yet capable of acting independently of it.

The experiments of Hunter were repeated and varied, among others by Spallanzani, who, when Hunter's paper fell into his hands, was engaged with his experiments on digestion. Spallanzani's experiments, which were all made on the lower animals, and which were multiplied and varied with his characteristic patience, confirmed the main fact announced in Hunter's paper, that digestion goes on after death, and that the stomach itself may then be digested by its own proper juice. Spallanzani, probably from making his observations in winter, did not for some time, among a great number of stomachs which he examined, find a single one which had its great end perforated from digestion of its coats. He found, he tells us, the mucous membrane dissolved more or less, and especially in fish, but never ob-

served that entire destruction of all the coats of the stomach which had been noticed by Hunter. His observations, however, taught him a fact of which Hunter was not aware,—the fact, namely, that a certain degree of *heat* is requisite to develop the solvent power of the gastric juice.

Soon after the publication of Hunter's paper, observations on softening of the stomach in man were published by several physicians. In these observations the appearances of the softened stomach were very faithfully described, but no one seems to have met with the change so frequently as Hunter. Most writers, from making their dissections chiefly in winter, or from only recognising the change when it existed in an extreme degree, inferred that digestion of the stomach after death occurs but seldom, and in cases that must be considered as exceptions to the general rule.

At length, the interest which the subject at first excited died away; few observations on this remarkable change were published, and when softening of the stomach was met with it was regarded by most physicians, as it had been before the time of Hunter, as the result of disease. In France, indeed, where morbid anatomy was most assiduously cultivated, but where the writings of Hunter were less generally read than in this country, many of the most enlightened pathologists seemed never to have even suspected that it could have any other origin; so that, in 1830, when Dr. Carswell again mooted the subject in Paris, and exhibited softened stomachs of rabbits that were killed soon after feeding, and opened some hours after death, almost as much interest—I may say, indeed, *surprise*—seems to have been excited, as was caused on the first publication of the observations of Hunter.

From this time the renewed interest had its former effect, and, for a few years, essays on the subject frequently appeared. Observations, indeed, of softening of the stomach, or of digestion of the stomach after death, have occasionally been published up to this time; some very admirable ones recently, by Mr. Wilkinson King, in one of the late numbers of Guy's Hospital Reports. But pathologists, in general, seem not to be aware how frequently the stomach undergoes this change. It has been supposed by many to occur only after violent deaths; and when occurring, as it often does, in other circumstances, it has been either overlooked or has been regarded as the effect of disease.

M. Louis, for instance, one of the most accurate observers of our times, has published a special essay on softening (with thinness) of the mucous membrane of the stomach; and in his elaborate work on Phthisis has given, in his usual statistical form, the exact proportions in which he

found this change, after death by acute and by chronic diseases; but when these works were first published he seems not to have suspected that such a change could take place, except from disease. To any one, however, who is familiar with the appearances produced by the gastric juice in cases like those which first arrested the attention of Hunter, where death happens suddenly in the midst of health, it will be evident enough, from the mere perusal of Louis' descriptions, that in most of the instances to which he refers the softening of the stomach occurred subsequently to death, and was the mere effect of the solvent powers of the gastric juice.

The question then arises—how is it that, in this age of inquiry, when morbid anatomy has been studied with a zeal and success incomparably greater than in any former time, the truth set forth by Hunter has been so slow to make its way?

The reason, apparently, is, that the change in question varies in frequency and degree with many circumstances,—with the time of year, with the heat of the room in which the body is kept, with the circumstances of death, and with the previous state of health;—so that the observations of one man did not tally with those of another; what one found frequently, another, whose observations were made in different circumstances, found but rarely. The variable and disturbing circumstances were not considered, and each man naturally distrusted observations that appeared to be contradicted by his own.

No one seems to have observed this change so frequently as Hunter; but the truthfulness of Hunter's mind, and the simplicity and candour even of his statements, prevent us from supposing that in this respect he was guilty of any exaggeration. The fact is, that the solvent powers of the gastric juice require a certain temperature, and increase as the temperature increases from the lowest point at which they act at all to the temperature of the blood,—the temperature at which they act in the living body. Hunter's observations were probably made during a hot summer, when, by reason of the high temperature, softening or digestion of the stomach after death was unusually frequent. During the past summer, which was a very hot one, my attention was casually drawn to this subject, and from the middle of May to the middle of August I carefully examined the stomach in all the bodies that were opened in the King's College Hospital. In several instances the mucous membrane in the great end of the stomach was completely destroyed, and in a very large proportion it had been clearly acted on, more or less, by the gastric juice. I renewed my observations in October, but

the change, at least in a striking degree, was then much less frequent.

Digestion of the stomach by the gastric juice is generally observed, as I have already intimated, in the great end of the stomach; where any liquid that may be in the stomach collects after death, and where the mucous membrane is thinner, and less firm, and usually less protected by mucus, than in other portions.

The first effect of the gastric juice is to render the mucous membrane thinner and softer, so that it may be readily removed by the pressure of the fingers; and at the same time to blacken the blood contained in its vessels. If the capillaries of the mucous membrane were full of blood when the action of the juice commenced, the softened membrane gets a greyish or brownish cast, and is paste-like and opaque. If, on the contrary, the capillaries of the mucous membrane were empty, the softened tissue is rendered somewhat gelatinous and transparent, and should the larger branching vessels in the submucous areolar tissue be full, these are blackened, and thus rendered conspicuous, and, in consequence, are plainly seen (as they are represented in this diagram) through the thin and softened and gelatinised membrane.

Precisely similar changes take place in albuminous tissues out of the stomach, when they are submitted to the action of the gastric juice at the temperature required for digestion. If the substance, like white of egg, or lean boiled meat, contains little blood or fat, it is rendered more or less transparent or gelatinous, as it softens; if, on the contrary, it contains much blood and fat, like raw or roasted flesh, it is transformed into a brownish paste.

In a still higher degree of this post-mortem digestion of the stomach, the mucous membrane most acted upon has the form and appearance of a thin layer of mucus or paste. The underlying tissues are next dissolved and removed, until, as in the instances which first attracted the attention of Hunter, all the coats are eaten through, and the contents of the stomach escape into the general cavity of the peritoneum. The edges of the opening thus made, to borrow the description of Hunter, "appear to be half dissolved, very much like that kind of dissolution which fleshy parts undergo when half-digested in a living stomach, or when dissolved by a caustic alkali, viz. pulpy, tender, and ragged."

In some instances, the portion of the diaphragm which lies in contact with the dissolved end of the stomach gets dissolved in its turn, and the contents of the stomach pass into the cavity of the chest. The spleen, the lungs, and other organs with which the solvent juice is thus brought into

contact, are in such cases more or less corroded by it.

Digestion of the stomach occurs, as I have before remarked, in the highest degree in its great end; and it is only in this part, where the liquid contained in the stomach chiefly collects after death, and where the mucous membrane is thin, that *perforation* from this cause ever takes place: but when this end of the stomach is perforated, or its mucous membrane much softened, other portions of the organ exhibit in less degree the action of the same agent. The edges of the folds, which the organ, when contracted, always exhibits in its pyloric portion, are the parts that here become softened the first. If the mucous membrane was empty of blood, these folds appear as whitish, semitransparent lines, or rather narrow bands, in which the mucous membrane is palpably thinner and softer than in their intervals, where it is more protected, partly perhaps by the mucus which lodges in the furrows, from the action of the dissolving agent. If, on the contrary, the mucous membrane was congested, the softened bands have a brownish tint, which contrasts still more strongly with the pink uninjured membrane around them.

It sometimes happens, as was shown by Mr. King, in a paper published in the 7th volume of Guy's Hospital Reports, that, after death, some of the liquid in the stomach regurgitates through the cardiac orifice (mainly, perhaps, through the contraction of the abdominal muscles in the *rigor mortis*), and lodges in, and dissolves, the lower end of the *oesophagus*. Here, as towards the pyloric end of the stomach, the projecting edges of the folds are acted upon first. The coats of the *oesophagus* may be completely dissolved, one after another, like those of the stomach, and in this way, also, some of the contents of the stomach may pass into the cavity of the pleura. A case of this kind occurred to Sir A. Cooper, who related the particulars of it to Mr. King. "The *oesophagus*," he said, "was dissolved, and the bread and cheese was found extravasated in the chest."

The under or back part of the *oesophagus*, on which the solvent fluid rests, is the part that is most acted on in such cases; and from the lower end of the *oesophagus* lying to the left of the vertebral column, it follows that where perforation takes place the opening leads into the *left* pleural sac.

When the *oesophagus* is thus dissolved, or corroded, by the gastric juice, the great end of the stomach is always dissolved, or corroded, also.

As digestion of the stomach after death does not occur in all cases, and as, when it does take place, it occurs in very different degrees in different cases, the question

arises—On what conditions does this digestion depend?

Two conditions obviously necessary are, 1st, that the stomach, at the time of death, should contain a certain quantity of active gastric juice, or, at least, of its acid; and 2dly, that it should be kept for some hours afterwards at the temperature required for artificial digestion.

The first condition is very generally fulfilled in persons who are killed by accident, in the midst of health, and soon after a meal. The instances, before related, which so strongly arrested the attention of Hunter, were of this kind.

It was early remarked by Hunter, that softening of the stomach does not occur in all cases of violent death; and it was inferred from his observations, and the inference was confirmed by the experiments of Dr. W. Philip and Dr. Carswell, that it only takes place when death happens soon after a meal; that is, while the process of digestion in the stomach is actively going on.

It is, indeed, only at such times that the stomach, under ordinary circumstances, contains any gastric juice. While the stomach is empty of food, the fluid which moistens its surface is not acid, and has no peculiar solvent power. This point was conclusively established by the observations of Dr. Beaumont on the stomach of St. Martin, which could be seen and examined through a large fistulous opening in the wall of the belly; and one of the most interesting circumstances witnessed by Dr. Beaumont, in his long-continued observations, was the out-pouring of the gastric juice on mechanical irritation of the inner surface of the stomach, and especially on the introduction of food. The following is the account he gives of one of his experiments. (Exp. 63).

"Jan. 19th—At 9 o'clock A.M., coats of stomach perfectly healthy and clean. No appearance of morbid action; tongue clean, and every appearance of perfect health. There was no free fluid in the gastric cavity until after the elastic tube was introduced, when it began slowly to distil from the end of the tube, drop by drop, perfectly transparent and distinctly acid. I obtained about one drachm of this kind, and then gave him a mouthful of bread to eat. No sooner had he swallowed it than the fluid commenced flowing more freely from the tube, and I obtained two drachms, less pure, however, with saliva and mucus mixed with it, and slightly tinged with yellow bile. The surface of the protruded portion of the villous coat at this time became covered with a limpid fluid, uniformly spread over its whole surface, distilling from myriads of very fine papillary points, and trickling down the sides. After letting him rise and walk about two or three minutes, I again intro-

duced the tube, and obtained about two drachms more of very pure gastric juice, making up the whole five drachms."

Dr. Beaumont states, that in more than two hundred observations he never found any gastric juice in the empty stomach; and he considered mechanical irritation of the mucous membrane, or the more natural and more efficient irritation by food, to be necessary for the secretion of it.

The secretion of the gastric juice is, to use a word much in vogue, a *reflex* function, whose ordinary excitant is the impression of food on the mucous membrane of the stomach. The nervous influence, so excited, causes the sudden and rapid outpouring of the gastric juice, just as the nervous influence, called into action by mechanical irritation of the conjunctiva, causes a flow of tears. Now the flow of tears may be excited, not only by mechanical irritation of the conjunctiva, but by mechanical irritation of the mucous membrane of the nostril, or of the mouth; and by certain medicines, like iodide of potassium, which are excreted at those surfaces: and by mental emotion. The flow of urine, again,—an instance in some degree analogous—may be increased by emotion, as well as by direct irritation of the kidney itself.

The question then arises—may not the same thing happen for the gastric juice? May not the outpouring of this be occasionally determined by other influences than the presence of food in the stomach; or, at least, by nervous impressions on other parts? Many considerations lead me to think that it may.

Spallanzani obtained some gastric juice from his own stomach by tickling the fauces, and thus exciting vomiting, in the morning before breakfast, when the stomach, we may presume, was empty of food. By exciting vomiting twice in succession, he obtained in this way juice enough to undertake some experiments of which he has given an account. That the fluid was actually the peculiar solvent juice of the stomach was shown by its dissolving, and preventing the putrefaction of, meat.

A case having great interest as regards this question, was brought under my notice last summer.

A gentleman, 40 years of age, while riding in the Park at 6 o'clock in the afternoon of the 21st of May, was thrown from his horse, and, by the fall, fractured his skull. He was taken to his house, where he lay motionless and insensible till half-past 1 P.M. on the following day, when he died.

On examination of the body, which was made eighteen hours after death, by my colleague, Mr. Fergusson, the great end of the stomach was found to be completely dissolved, and other portions of the organ

exhibited in less degree the usual appearances caused by the solvent action of the gastric juice. The portion of the diaphragm in contact with the great end of the stomach was likewise dissolved quite through, so that there was a large opening from the stomach into the cavity of the left pleura. This cavity contained about a pint and a half of dark grumous fluid, not unlike coffee-grounds, consisting chiefly, I presume, of partially digested or altered blood.

Now the accident happened, as far as I could learn, and I made many inquiries on this point, before dinner, when the stomach was probably quite empty; and, according to the statement of Mr. Fergusson and others attendant upon the patient, it completely destroyed the power of swallowing, so that nothing whatever was taken into the stomach from the time of the accident to his death.

Here, then, was digestion of the stomach in the highest degree, after a violent death, which did not occur, however, suddenly and soon after a meal, as in the instances of similar destruction of the stomach recorded by Hunter and others, but, on the contrary, at the end of nearly twenty hours passed in a state of coma, and after an unusually prolonged fast.

The question, then, naturally arises, was the secretion of the large quantity of gastric juice which must have existed in the stomach at the time of death determined by the shock of the accident, or by the subsequent irritation of the brain which the accident occasioned? And is there not still some ground for the suspicion which Hunter early entertained and then abandoned, that digestion of the stomach is especially apt to occur after death from fracture of the skull? It is clear that if gastric juice should be secreted under such circumstances, and in an empty stomach, its action on the coats of the stomach after death would be unusually great, because it would not then be absorbed and neutralised by food, and would have nothing but the unprotected stomach to dissolve.

But, as I have already stated, it is not only after violent death in the midst of health that digestion of the stomach takes place: it occurs also, and not unfrequently, though then usually in much less degree, in persons who die of disease. The reasons of this difference of degree are obvious. In a state of health, the secretion of gastric juice is determined by the presence of food in the stomach; and the quantity of juice secreted varies with the quantity of food which it has to dissolve. At the end of two or three hours after a meal, the stomach is either empty, or the solvent power of its juice has been in a great measure expended in digesting the food. Hence it is that diges-

tion of the stomach is usually found in the highest degree when death happens suddenly, soon after a full meal.

Now, in most diseases, the appetite is impaired, and much less food is usually taken than in health, more especially as their fatal termination approaches. In most diseases, too, the power of digestion suffers—the gastric juice secreted, after a given quantity of food, is less in quantity, and has less solvent power, than in health. On both accounts, the digestion of the stomach itself after death occurs less frequently, and usually in much less degree.

There are, however, some striking exceptions to this general rule. In persons who die of phthisis, and after death from some other diseases, the mucous membrane of the stomach, in its great end, is frequently found much softened by the gastric juice; and now and then all the coats of the stomach are destroyed at that part in almost as great extent as when death happens suddenly, in the midst of health, soon after a meal.

A consideration of these cases raises some interesting questions, but I have not time to enter on it to-day. I shall, therefore, reserve what I have to say on this subject until I have the honour of addressing you again, and shall now proceed to speak of the other conditions necessary for post-mortem digestion of the stomach.

One requisite for this, as was clearly shewn by the experiments of Spallanzani, is a certain temperature. Spallanzani found that the gastric juice, which acts strongly at the temperature of the living body, loses its solvent powers, and is no longer antiseptic, when the temperature is reduced below a certain degree,—a conclusion which has since been fully confirmed by the experiments of Dr. Beaumont. Digestion is probably most rapid at the temperature of the living body, about 100° Fah.: it goes on briskly at the temperature of the atmosphere in summer; but at the temperature of 60° Fah. (to judge by an experiment of Spallanzani) it becomes very slow and feeble. This accounts for the circumstance that digestion of the stomach after death is most commonly met with in summer. Much, however, must depend on the temperature of the body at the time of death, and on the rapidity of cooling which takes place afterwards, which must of course vary, whatever be the season, with the place in which the body is kept, and with the nature of the material, whether woollen or otherwise, in which it is wrapped.

Another condition of artificial digestion, and which is therefore required for the digestion of the stomach after death, is that the digestive fluid should be acid. It was proved by Schwann, in his experiments on

artificial digestion with rennet, that the digestive fluid is inert when neutralised by carbonate of potash, but recovers its solvent power on the addition of the proper quantity of hydrochloric acid.

The digestion of the stomach after death may be occasionally prevented by ammonia given just before death, to relieve the sense of sinking. If the juice be in small quantity, it may be neutralised, and thus rendered inert after death, by the transudation of the alkaline serum of the blood.

Alcohol, again, renders the digestive principle inert; and if this be given freely just before death, as it often is in this country, in the vain attempt to relieve the sense of sinking, it may not be absorbed before the circulation ceases, and may prevent the subsequent solution of the stomach, which the gastric juice would otherwise occasion. A great number of medicines also suspend or much diminish the solvent powers of the gastric juice, and, if given just before death, may prevent or retard the subsequent digestion of the stomach.

The influence of medicines in retarding digestion, which may now be clearly ascertained by artificial digestion with rennet, has not yet been sufficiently studied. The importance of knowledge on this point is very obvious, when we consider how frequently medicines of different kinds, many of which are slowly absorbed, are given when there is food in the stomach, and when digestion is still going on.

Digestion of the stomach after death is especially interesting, because it exhibits to us in a very striking manner the self-protective power possessed by living tissues. While the food we take into the stomach is rapidly dissolved by the mere chemical action of the fluid which is there secreted, the coats of the stomach itself, which in composition are nearly the same as the food which is thus dissolved, suffer no damage. The chemical action of the gastric juice, as regards the stomach itself, and no doubt the chemical action of various articles of food as well, is counteracted by the forces which the nutrition of the organ develops. We have, indeed, the protective influence of the forces thus developed always presented to us in the resistance which the tissues of living bodies offer to the chemical affinity of the matter by which they are surrounded. Even air and moisture, which are so necessary to the continuance of life, destroy by their chemical action, and resolve into simpler chemical combinations, all the tissues of both animals and plants when life is extinct. But the instance we have been considering is perhaps more likely to fix attention, from the circumstance that the destructive agent is formed by the very tissues which it sub-

sequently serves to destroy. We see an analogous instance in plants. The leaves of a living plant, under the influence of light, are continually evolving oxygen; yet they yield readily to the chemical action of the oxygen of the air when the vital principle is extinct.

The protective influence of the forces developed in the processes of nutrition has not been sufficiently considered in pathology. It is through the resistance which they offer to destructive chemical changes, that the tissues of living bodies remain unhurt amidst the many causes of disturbance to which they are ever exposed. This vital resistance, if we may so term it, exists in different degrees in different persons. Men of feeble constitution have frequently recurring ailments, the effect of external agencies, which they have not strength enough to resist; others, by nature more robust, exposed to these same agencies, pass through life without ever suffering sickness.

The vital resistance varies in intensity at different periods of life, and becomes very feeble in old age, when the tissues suffer damage, and when the current even of life may be stopped by slight disturbing influences. The way to prolong life in old age is carefully to protect the body from cold, and from all other avoidable causes of disturbance: above all things to abstain from lowering remedies in the treatment of the ailments that are incident to it.

But, at any period of life, the vital resistance varies in degree, according to the circumstances in which the person is placed. It requires for its support the proper nutrition of the tissues. Whatever promotes this—as pure air, good food, the natural stimulus of the nerves, the healthy play of the different organs—serves to maintain and increase it. Whatever lowers the nutrition of any part, renders that part more liable to disease from chemical disturbing influences from without. So it is with the whole body. Whatever exhausts the body—as insufficient food, prolonged cold, excessive bodily fatigue, the depressing passions—leaves it without its proper protection. Its tissues suffer damage from external agencies which in other conditions of the body would have been without injurious effect.

Disease always comes in the train of exhausting or depressing influences of whatever kind. Fever attacks the poor in preference to the rich,—the new comers to towns,—those of our medical students who are exhausted by work. Erysipelas infects those who are weakened by other diseases. Consumption is especially frequent among the inmates of prisons. Dysentery and other disorders produced by malaria are very common (as Dr. Baly as shewn in the admirable lectures which he has just delivered

in this place) among the prisoners at Millbank, while they do not occur among the free population around. It has long been a popular notion, and is probably a true one, that the dread of cholera predisposes to it. After devastating wars, and in seasons of scarcity, when a whole population is depressed, pestilence invariably comes in the form of infectious fever, or malarious disease. This has long been known to the historian and the statesman, as the result of experience. The physician looks deeper, and sees in it the effect of the diminished vital resistance which all exhausting or depressing influences occasion.

THE COLOURS OF FLOWERS.

THE bright colours of flowers are given by a matter of a very different character, always fluid, and contained in cells situated immediately beneath the epidermal layer. Many of the different shades of colour are given by the superposition of cells containing different coloured matters; thus yellow, seen through red, appears orange; green showing through red renders it apparently brownish. The very deep tints are produced by the close aggregation of many cells lying one above another. The layer of epidermis, or cuticle of petals, is colourless, and by assuming a papillose structure it gives them the peculiar velvet-like character they sometimes possess; or when less developed and filled with colourless fluid, renders the surface glaucous or crystalline in its appearance. The predominating colours are yellow, red, and blue, with the various intermediate tints; sometimes these colours are converted one into another in the petal after fertilization (at which period the colours are brightest.) In many boraginaceæ the blue flowers become red; in *mysotis versicolor* the yellow flowers become blue, and in some oragraceæ white flowers turn red. Many flowers have their colours bedimmed or removed as they wither, especially the blue, which become most frequently white; white flowers usually turn brown; red colours are more persistent, and yellow is generally unaltered, except in certain cases, such as *melampyrum*, and some other scrophulariaceæ, which are blackened.

The chemical nature of these colours is still uncertain; it is well known that the blues are reddened by acids, the reds turned blue, green, or even yellow, by alkalis. Chemists have thence supposed that the red colours are more highly oxidized matters than the blue, and taking chlorophyll as the starting point, they have deduced red colours by oxidation on one side, and blue by deoxidation on the other.—*Henfrey's Botany*, 226 and 227.

Original Communications.

ON THE

RELATION OF THE EXISTENCE OF
THE BRUIT DE SOUFFLE, OR
BRUIT DE DIABLE,TO THE PROGRESSIVE INCREASE OR DIMI-
NUTION OF THE CORPUSCULAR ELEMENT
OF THE BLOOD.

BY WILLIAM CAMPS, M.D. Edin.

IN my last paper on the pathological characters of the Blood in the state of the sanguiferous system usually denominated Plethora, I stated my intention to forward for insertion in the LONDON MEDICAL GAZETTE, a communication on the relation of the auscultatory sign, the bruit de souffle, or bruit de diable, to the progressive increase or diminution of the globular element of the blood, observed in certain states of the system, and chiefly with reference to numerous cases of Anæmia, in which the blood has been subjected to chemical analysis; so that this relation of an auscultatory phenomenon to the chemical constitution of the blood may be made the subject of observation, and at the same time furnish a basis on which may be founded valuable conclusions with reference to the pathological characters of this fluid, and the application of appropriate remedies for their removal or cure.

The object, therefore, of the present paper is to direct attention to certain facts recorded by observers, and chiefly by M. Andral, of Paris, on this interesting subject; by which he shews that the *constant* or *occasional* existence of the bruit de souffle, or bruit de diable, is closely connected with the proportion of the red corpuscles of the Blood found in this fluid taken from his patients. Although speaking of this auscultatory phenomenon, it is not my intention, on this occasion, to enter upon the discussion of its precise anatomical seat, respecting which there exists much difference of opinion between medical authorities in this country and in France. Thus, M. Andral himself commonly describes it as "*le souffle aux artères carotides*." I shall make use of the term by which it is usually designated, namely, bruit

de souffle or bruit de diable, without reference to the class of vessels in which it may be seated—whether these be the arteries or the veins.

In order that the bruit de souffle or bruit de diable be present, it is requisite that the pathological condition of the Blood should have especial reference to the diminished proportion of the red corpuscles of that fluid; for, if the fibrine of the Blood only be diminished, it is not found to be present. Thus M. Andral remarks that he has never observed it in those affected with Scorbutus, unless this disease has reached that period at which the red corpuscles, existing at first in their physiological proportion, at length begin to diminish. M. Andral states also, that he has never met with the bruit de souffle or bruit de diable in those cases in which the pathological condition of the blood is especially to be attributed to the diminution of the albumen of the serum.

With reference to the relation to be established between the diminution of the red corpuscles of the Blood and the occurrence of the bruit de souffle or bruit de diable, M. Andral has made the following observations, deduced from the analysis of a series of eighty-eight cases in which this bruit existed in the neck (*aux artères carotides*), either with or without intermission. Of these eighty-eight cases, there were fifty-six in which the bruit was *constant*, and thirty-two in which it was *intermittent*.

Among the fifty-six cases in which the bruit was *constant*, there were twenty-eight in which the proportion of the red corpuscles of the Blood was not found to be above that represented by the figures 80 in 1000 parts of that fluid, and it descended in some of these cases as low as represented by the figures 21. There were thirteen of these fifty-six cases in which the proportion of the red corpuscles varied between 80 and 100; there were ten of these fifty-six cases in which their proportion varied from 100 to 115; and, lastly, five of these fifty-six cases in which their proportion was raised from 115 to as high as 125.

Among the thirty-two cases in which the bruit de souffle *existed*, but was *intermittent*, there were only three in which the proportion of the red corpuscles was below that represented by

the figures 80—namely, 76, 77, 77; there were thirteen of these thirty-two cases in which the proportion varied from 80 to 100; there were eight of these thirty-two cases in which the proportion varied from 100 to 115; and eight others of these thirty-two cases, in which the proportion varied from 115 to 126.

M. Andral then remarks as follows, and proceeds to lay down certain laws or rules in reference to the existence, whether *constant* or *intermittent*, of the bruit de souffle or bruit de diable: "It is to be observed, then, that with different individuals, this bruit heard in the neck does not always co-exist with the same degree of diminution of the proportion in the red corpuscles; there are, however, on this subject, certain laws to be noticed, and these are the following:—

1st. When the red corpuscles are so far diminished as to be below the proportion 80, the bruit may be heard in the neck (*existe dans les artères*) *constantly*; M. Andral has not met with a single exception to this law.

2d. When the red corpuscles have remained above the proportion 80, the bruit de souffle may be heard, but it is no longer *constant*; we continue to hear it frequently when the proportion of the red corpuscles varies between 80 and 100; it is heard still, but much less frequently, in proportion as the red corpuscles exceed 100, and lastly, it is heard no longer when the proportion of the red corpuscles is raised above its mean physiological standard."

Whatever may be the nature of the disease in which these diminutions of the red corpuscles exist, the bruit de souffle is not the less evident; M. Andral has observed it in cases the most diverse; in putrid fevers, eruptive fevers, pneumonia, acute articular rheumatism, and in a great number of chronic diseases. But in all these cases it occurred only in connection with the proportion of the red corpuscles of the blood, which has been already mentioned.

The bruit de souffle is very frequently heard in pregnant females; exactly in accordance with what has been observed in reference to the diminution of the red corpuscles during Utero-gestation, of which I have spoken in one of my former papers.

In thirty-two cases of Utero-gestation the red corpuscles of the Blood were observed by M. Andral to be below the physiological proportion, varying in six cases from 125 to 120, and in twenty-six cases their proportion varied from 120 to 95, in 1000 parts: all these cases would therefore fall under the second of the laws laid down by him, in which the bruit would have an *occasional*, not a *constant* existence.

The intensity of the bruit de souffle is usually proportionate to the degree of diminution in the figure of the red corpuscles of the Blood. Thus, in twenty-two cases of Chlorosis, M. Andral observed the bruit de souffle to be *intermittent* in eight cases, in which the proportion of the red corpuscles varied between 117 and 77, and in fourteen cases he observed it to be *constant*; the proportion of the red corpuscles in these varying from 113 to 28. I find that MM. Becquerel and Rodier have made chemical analyses of the Blood of two female chlorotic patients, in which they state they found no diminution of the red corpuscles of the Blood, or of the solid constituents of this fluid generally; at the same time, they observed in these two patients all the symptoms of Chlorosis, including the existence of the bruit de souffle or bruit de diable, although they do not remark whether it was *constant* or *intermittent*.

50, Green Street, Grosvenor Square,
May 3, 1847.

ON THE CRYSTALLINE STRUCTURE OF CHALK OR GOUT STONES,

By J. W. GRIFFITH, M.D. F.L.S.
Physician to the Finsbury Dispensary.

THE subject from which these deposits were derived was a man, æt. 34, who had been suffering from chronic gout, with the peculiar white deposits in many of the joints of his body, as also in several non-articular structures—as the integuments covering the glutæi muscles, &c.: in short, he exhibited the ordinary symptoms of one suffering from chronic gout, the white deposit being visible through the unbroken skin, and portions of it escaping at irregular intervals from abscesses.

The substance, as I obtained it from my friend Mr. Goddard, was of the consistence of cream: it had been evacuated by puncture, and on close examination exhibited numerous white masses in suspension, which were hard and gritty under the finger. On repose, the greater number of them subsided, the supernatant fluid appearing milky. The latter was coagulated by heat and nitric acid. When examined with the microscope, the corpuscles of pus were found numerous, and presenting the ordinary characters; a few red blood-corpuscles were also detected, irregularly scattered. The white chalky masses were found to consist of aggregations of minute crystalline needles, some of which were seen irregularly disseminated throughout the field of the microscope: they were of the most varied sizes; the smaller ones being about 1-3000th of an inch in length, the larger averaging about 1-200th of an inch. Their diameter was so minute as to be beyond accurate admeasurement: in fact, it was about equal to or rather less than that of the beautifully fine lines on the glass micrometer which was made by Mr. Jackson. The larger crystals only were aggregated into bundles, in which they were mostly arranged parallel. They were soluble in the fluid and in water by heat, rendering the fluids turbid on cooling. The turbidity arose from amorphous granules. They were not so readily soluble in water as the lithate of ammonia. When muriatic acid was added to the warm fluid, and the mixture set aside, on cooling colourless crystals of lithic acid were deposited: they were mostly of the rhomboidal form, the more obtuse angles being replaced by semi-circular extensions, resembling that form figured in Pl. I, Fig. 4, of my manual on the Urine.

On filtering and evaporating the solution to dryness on a glass plate, I was surprised to find no cubes of chloride of sodium, but in their place various arborescent forms, with the daggers, such as are produced when chloride of sodium is crystallized from a fluid containing urea. On heating the evaporated fluid to redness, a white ash, consisting of chloride of sodium, remained, which, when dissolved in water and crystallized, exhibited cubes only. The arborescent and dagger-

like crystals may be formed when muriate of ammonia is present, or even chloride of sodium, with the extractives of various animal fluids. As, however, there was no *a priori* reason why urea should not be present, as muriate of ammonia certainly was not, I treated about 1 oz. of the mass in the ordinary manner for detecting urea, but no trace was found. The peculiar crystallisation above described arose, then, from the alteration of crystalline form produced in the chloride of sodium by the extractive matters with which it was mixed.

I examined the urine of this patient at the time this substance was exuding: it was collected during the twenty-four hours, was of the ordinary amber colour, acid, deposited a very great amount of ammonia, and contained 0.14 per cent. of lithic acid, which is but little above the ordinary quantity.

I believe that the occurrence of pus in these abscesses before they have become opened has been denied by some writers: it was undoubtedly present in this instance in considerable quantity, in the first portion evacuated by puncture.

April 27, 1847.

LARVA OF THE *HELOPHILUS PENDULUS*
FOUND IN THE SPINAL CANAL OF A
HORSE. BY MR. E. STANLEY, M.R.C.V.S.

A MILLER's cart-horse appeared to have injured his spine; there was partial paralysis present, attended occasionally with acute pain. Being walked out one day, he was suddenly seized with violent trembling of the limbs, profuse perspiration, and other acute symptoms altogether very uncommon. With some difficulty he was walked home. The animal either died or was destroyed within twenty-four hours. Upon examination of the spinal sheath, there were observed most decided marks of inflammation, with extravasation of blood about the lumbar and posterior portion of the dorsal region from fourteen to eighteen inches in length; and, upon a careful investigation, the narrator found a grub of a dark brown colour lying on the spinal sheath: its body was the thickness of a common slate-pencil, and about half an inch long: it had a very thin tail as long as its body, on which were apparently many very short legs. It was found to be a larva of the *helophilus pendulus*, which is frequently met with in privies and drains.—*Veterinary Record*.

THE ALLEGED CASE OF POISONING
AT NICE.

SIR, — You were kind enough to insert in last week's GAZETTE the letters and testimonials relative to the death of Miss S. of Nice: I now enclose you an authentic report of her case, with the treatment.

It has been copied verbatim from the original report by Dr. Gurney, and which is now in the hands of the British Consul at Nice.

I leave the facts of the case to speak for themselves, feeling fully convinced that a careful perusal of them will at once show the absurdity of the statement that her death was caused by poisoning.—I remain, sir,

Very obediently yours,
H. C. BRENCHLEY.

May 8, 1847.

On the 16th of January, on paying my last visit to Mrs. S——, who had just recovered under my care from a severe attack of acute rheumatism, she called her daughter into the room, saying she was now very anxious as to her state of health. I then saw her for the first time. Age 24; tall; well made; temperament sanguine; habit naturally rather full; nervous system exceedingly sensitive. Three years since suffered from obstinate spasm, with firm closure of jaw, which, though the medical man, to quiet her fears, said was not trismus, I am confident from the history of the case was a decided attack of trismus, arising from the irritation caused by a broken tooth, which had been left in her head a month before, acting on her susceptible system.

Last October had a long and dangerous fever, and from the facts elicited I expressed my opinion that she was still labouring under congested liver and irritable stomach, the result of the fever. Now subject at times to great pain in the stomach from spasm, especially after taking food.

Present state.—Pulse rather irritable; skin has slight bilious tint, as also the conjunctiva; bowels torpid; tongue slightly coated; no bitter taste. Stomach and abdomen free from all tenderness on pressure, everywhere soft and yielding. Slight tenderness on

pressure over the anterior portion of the great lobe of liver. Told her mother I thought there was some obstruction in the ducts of the liver, concluding the symptoms arose from obstruction rather than primary irritation of the organ, from the state of the pulse, absence of fever, &c.—Ordered gentle mercurial, with aperient.

Jan. 18th.—Bowels well opened; tenderness over right hypochondrium gone; complexion much clearer: no spasm or colic after her dinner of the 17th. I pointed out the evident connection between the obstruction of the liver and the pain of the stomach.—Ordered very slight mercurial pill, with warm aperient draught and exercise. She had not been out for ten days. Continued pretty well, and walked out on the 18th and 19th.

I was sent for early on the morning of the 20th. Found she had felt very poorly on the evening before; her illness increased during the night, attended with spasmodic pain in the stomach and arch of colon, with constant efforts to vomit, which when successful brought up some bilious fluid, which was kept for me to see. I gave some warm water, that I might be sure the stomach was free from any offending matter; and on examining the water when returned, which it was immediately, I found it little increased in quantity, but mixed with bile.

I now examined my patient attentively: she had placed herself in a sitting posture in bed, with her head bent forwards, and both hands pressing the abdomen. Her bowels had been freely and naturally opened the day before; or rather, the evacuations were natural. Countenance natural, but pale from sickness; pain evidently spasmodic, and returning at quick intervals; pulse 80 in the interval, quickened during the pain, soft and compressible; tongue moist, rather coated, not yellow; skin natural; no fever; head free from all disturbance. Firm pressure gave no tenderness either of the liver or abdomen. The absence of quick and hard pulse, all fever or heat of skin, and of all tenderness on pressure, the position of body, &c., clearly putting all present fear of gastritis, peritonitis, &c., out of the question, and pointing out no less distinctly the spasmodic

nature of the affection, I examined for hernia, of which there being no sign, nor of obstruction, I immediately addressed myself to relieve the constant and violent spasms and vomiting, by effervescing draughts, with muriate of morphia and hydrocyanic acid (a sixth of a grain of morphia and a drop and a third of dilute acid to each dose), and large hot linseed-meal poultices over the abdomen. The first draughts, which I administered always myself, were returned as soon as swallowed. She was constantly asking for drink, as she said, "that the stomach might have something to contract upon." After trying other drinks, soda water was the only one she would hear of, and of this she drank about six bottles, half a bottle at a time, which, with everything else swallowed, was constantly thrown up again immediately, — the contractions going on the same whether the stomach had liquid in it or not, but always with less pain when it had something to throw up with the bile. At last one of the draughts was retained half an hour, with slight relief to the spasms, the stomach then rejecting it with increased quantity of bile. The contractions were so powerful that the stomach felt under the hand like a hard ball. There was now slight shrinking from firm pressure over the ensiform cartilage, but without the symptoms of gastritis. She had one large watery evacuation from the bowels, tinged with bile. The pulse all along so soft and compressible that bleeding in any form, unless to subdue inflammation, could not be thought of. About 4, the pulse quickened, became smaller, though still soft, and easily compressible; and now, on pressure over the small intestines, soreness was complained of, my patient describing to me accurately the difference between the soreness which had just come on, and the pain she had all along had from the violence of the contractions. As this new symptom was accompanied by fever, heat of skin, and quick pulse, it left no doubt as to the commencement of peritoneal inflammation; the now more loaded tongue, and absence of diarrhoea, &c., distinguishing it from inflammation of the intestines themselves. The state of my patient forbidding general bleeding, I immediately applied eighteen leeches, sixteen of which bled freely in about half an

hour. The pulse, before the leeches were applied, was 112, small, as in peritonitis, but soft and compressible; this latter character, viz. its softness and compressibility, together with the danger which might be expected from collapse after such violent and long-continued contractions and vomiting, determined me to leech rather than bleed generally.

Finding remedies by the mouth of little avail, I ceased to give them, and gave thirty drops of laudanum in a starch enema, which was retained, and procured some relief for nearly an hour. I now left her for a short time, much reduced by the leeches. On returning, I found the spasmodic action had again returned, and found the stomach, colon, with the small intestines, contracted, like hard balls beneath my hand, whilst some of the muscles of the side and back were tense. Pulse now intermittent, and stopped by slight pressure; still, as the contractions were insupportable, I put my patient in a hot bath, and kept her in twenty minutes, giving some Sal. Volatile, which, however, was immediately thrown up again. The bath stopped the spasmodic action, and relieved her so much, that, after passing her water, she was able to get into bed almost without assistance. Before putting her into the bath, I explained to the mother and patient, that if, as I suspected, the obstinacy of the attack was caused by a gall-stone impacted in the duct, the bath was the most likely means to relieve her; and if not, still I hoped it would give relief by its effect on the nerves and muscular tissue. She now broke out into a natural perspiration, and expressed herself much relieved, and disposed to sleep. I watched by her bed till 6 in the morning of the 21st, during which time she had some natural sleep, with easy respiration, but frequently interrupted by efforts to vomit and spasmodic action. Towards morning, however, she asked for and retained on her stomach some warm toast-and-water. I now left her, to take a little rest; but on my return at half-past 9 or 10, found she had been constantly asking for me, was suffering from more dangerous spasms, as, from the situation of the pain, I had no doubt the diaphragm was now engaged, and that dangerous collapse had come on, the pulse at the wrist being imperceptible;

the temporal artery beat slowly, irregularly, and was stopped by the weight of the finger. She was sensible; said she felt very sick, but retained a little brandy and water. Finding her sinking, I gave more brandy, but she had further contractions, and threw it up with a large quantity of bile. I therefore gave her a turpentine enema, which she did not return, though she felt it. She answered my questions till about an hour and a half before her death, which took place at half-past 2 o'clock in the day. Only a short time before she died, her poor mother was crying by her bed-side, when she turned her head and looked at her, though she did not speak. Just before her death she had tonic spasms of some of the muscles of the jaw, neck, and arms. She took, in all, about twenty (or rather less, for by accident I upset some of the mixture) drops of the dilute acid, which the pharmacien, who is from Savory and Moore's, told me was the *French preparation*, which is about one-fourth weaker than our Acid Hydrocyanic. Dil. (i. e. containing one and a half per cent. of anhydrous acid). The quantity of morphia I administered was two grains and a half; the greater part of this, taken in divided doses, was returned *immediately*, and during the whole of the day the vomiting continued, excepting once or twice an interval of about half an hour, till I gave the lavement, when both the cramps, contractions, and vomiting, ceased for an hour. The enema was given about 11 at night. I administered the whole of the dilute acid and morphia in the course of the day (the 20th), from the time I was sent for in the morning till before the lavement was given, after which she took neither opiate nor acid. An hour after the lavement she had the hot bath, by which she was much relieved, and got into bed almost without assistance. During the whole of this day (the 20th) she was *perfectly* sensible, and in the bath as well she was most perfectly herself, and only thought of the trouble she was giving me, for I was supporting her back whilst she continued in it. She continued perfectly herself during the whole of the night, and, when roused from her sleep by a return of the contractions and efforts to vomit, spoke to me, expressing great anxiety about her state; asked

what she might try to drink, and asked for hot toast-and-water. She slept most soundly, for short intervals only, the first part of the night, and even then was awakened by my moving to feel her pulse; so much so, that, not liking to disturb her, I several times counted her inspirations instead of moving my hand to her pulse. Her breathing was natural; once thirty, and once thirty-two in the minute. Towards the morning I had several conversations with her on religion, and from 6 till 10 she was constantly asking where I was gone, and when I should return: this was when I went to take a little rest, after being with her for a day and a night.

During the whole of the time she was taking the medicine, and afterwards, she never had one symptom of being affected by the opiates, nor by the acid. Her head was perfectly free from all symptoms of congestion; her ideas were clear and distinct. She had no increase of saliva, or irritation in the throat; never any pain in her head, though she had pain in the muscles of the neck. Her eyes were under the influence of the light till about an hour or two before her death, when the pupils were dilated, *So perfectly free was she from all symptoms of having been affected by the medicine (except the enema, which evidently soothed her for an hour), that, had she taken two or three drachms of the acid and a dozen grains of the morphia, instead of twenty drops of one, and two and a half grains of the other, my opinion would have been just as decided. Besides, her stomach was constantly being thoroughly washed out by the forcible ejection of the liquids, soda-water, &c., which she insisted upon taking, to give something for the organ to contract upon, but which were always at once returned (or within a few minutes), and generally so quickly, that she held the glass with one hand and steadied the basin on her bed with the other, that it might be ready.*

The deceased was subject for some time past to great fits of depression, whilst her nervous system was most sensitive. One of my friends recollects seeing her land from a boat, and that, when she was half-way along the plank, she was taken with such a nervous tremor, that she could move neither backwards nor towards the

land, and shook in every muscle as though she had the palsy.

Dr. Farr and myself examined the body, of which the following is the result:—

External appearances: countenance natural, without the slightest distortion; skin entire, healthy, without tumefaction. Internal appearances:—On exposing cavity of the chest, the pleura was found healthy and free from all adhesion; the lungs were found generally healthy, but some of the air cells in the anterior and central portion of the right lung were unusually distended. The gall-bladder was nearly filled with inspissated bile, and its duct, at the third of an inch from the bladder, contained a small fatty preternatural growth, which was highly vascular. The mucous linings of the intestinal canal throughout were free from all signs of inflammation, and of natural appearance, but highly tinged with bile. The kidneys were found in a normal state; the peritoneum healthy, with the exception of a portion over the small intestines, where the vessels were highly injected, yet without thickening or adhesion. The alimentary canal was entirely free from any indications either of intussusception or strangulation. The bladder contracted and healthy.

(Signed) WILLIAM FARR,
HENRY C. GURNEY, M.D.

Nice, Jan. 22, 1847.

OBS.—So far was the patient from all head symptoms, that we did not even think it worth while to open the skull. However, when I was accused of having poisoned her, a Nice surgeon was deputed by the Senate to examine the body. I have not seen his report. He opened the brain and thoroughly examined the stomach, intestines, &c., and told the Consul that there was no trace of poisoning whatever. How far the severity of the disease and its obstinacy to treatment could be accounted for by the presence of the small vascular tumor in the cystic duct, it would be perhaps difficult to determine. The vessels in the tumor were large and much injected, forming a great part of its whole substance. My idea is, that some accidental irritation caused its sudden increase in size, and thus it became the efficient cause of spasm in the duct.

(Signed) HENRY CECIL GURNEY.

MEDICAL GAZETTE.

FRIDAY, MAY 21, 1847.

A TRIAL, of which we publish a report at page 919, furnishes some points of interest to the keepers of lunatic asylums, the public, and to the profession generally. A lunatic, who it appears was in a state requiring some restraint, had this applied to him under circumstances indicative of great brutality. Thus we learn from the evidence given at the trial, that the patient was first knocked down by one of the prisoners, and he was then struck by the other on his sides and on various parts of his body, with all the force which his assailant was capable of using. It is further stated that the lunatic was at this time perfectly helpless, and that the blood was running from his mouth. The deceased became ill, and "naturally" enough died about five days afterwards!

What is commonly called an "inquest" was held, and the jury found by their verdict that the deceased had died a "natural" death, particularly specifying, although it appears there had been no post-mortem examination, that the "natural" death arose from the effusion of blood upon the heart, and, further, that "no blame was attributable to the keeper of the asylum or to any officer of the establishment."

After the "inquest," which had thus so clearly settled the cause of death, the body of the deceased was examined; and it then came out, that, instead of there being any "effusion of blood upon the heart," five of the deceased's ribs were broken, and one of these had penetrated the pleura, and thus caused inflammation and death!

The counsel for the prisoners contended that his clients had used no

more violence towards the deceased than was absolutely necessary under the circumstances, *i. e.* that it is quite out of human power to subdue an obstreperous lunatic without knocking him down and breaking five of his ribs after he is on the ground! The common sense of the jury, however, was proof against this very ingenious appeal; and, under the direction of the judge—whether more violence had been used than was necessary, and whether this was the cause of death—they returned a verdict of guilty, and the prisoners were sentenced to three and six months' imprisonment respectively.

It is creditable to the keeper of the lunatic asylum that he took active steps to join in prosecuting the offenders, when the facts became known to him; but we do not think that the medical officer was so free from blame as the report would make it appear. He specifies a cause of death at an inquest upon speculative grounds, and thereby induces the jury to deliver what turns out upon his own evidence to be a false verdict; and, but for the accidental admissions of a witness, this verdict might have led to the entire concealment of a most brutal act of manslaughter! We will admit that a professional man may be ignorant of any violence having been offered to a lunatic who has died after a short illness; but, in reference to these helpless beings, it appears to us that he is bound to act independently of any such extrinsic information, and to determine, by an inspection of the body, what was actually the *cause* of death. We are at a loss to know what sort of an *external examination* of the body there could have been in this instance, when five ribs were broken and one actually displaced, and yet the existence of these severe injuries escaped the observation of the medical witness! He

tells us in his evidence at the trial that one rib had penetrated the pleura, and had caused death, by leading to inflammation of that membrane. When he opened the body *after* the inquest, he "found the broken rib had penetrated the pleura; and this afforded a clear and distinct cause of death." If this be so, what opinion are we to form of that part of his evidence where he admits, in cross-examination, that he said at the inquest the "death arose from effusion of blood upon the heart, and that the excitement of the struggle might have produced that result?"* Are we to presume that pleuritis and "effusion of blood upon the heart" destroy life under precisely similar symptoms, and that a diagnosis is impossible? or that the medical witness gave a random guess to satisfy the coroner and the "highly intelligent jury," who found that the death was quite natural from a glance at the outside of the body?

This case strongly bears out the justice of the remarks which we have so frequently had occasion to make, on the gross impropriety of holding inquests, and returning verdicts of the "cause of death," in cases in which there has been no proper inspection of a dead body. The whole of the proceedings are a solemn mockery, and a disgrace to our mode of administering the criminal law. Let any one consider the utter insecurity of life which must attend sham investigations of this kind: let him picture to himself the satisfaction with which the men, now undergoing punishment for this crime, must have received the verdict of ac-

* The medical superintendent who gave evidence on this occasion, has published the following statement in a letter addressed to the Editor of the Times:—

"At the inquest before the coroner, I gave it as my opinion that the deceased died of 'disease of the heart with serous effusion into the chest,' and not from 'effusion of blood upon the heart.'"

This, it will be perceived, in no way affects the above argument.

quittal at the hands of an "enlightened jury;" and when a medical opinion of *natural* death was so easily given and received, how easy it would be, to calculate on an escape on any future occasion, if they were compelled to break the ribs of another lunatic in placing him under restraint! Fortunately the mistakes thus made at coroners' inquests,—either through gross incompetency in the coroner, indecent haste in conducting the inquiry, or indiscretion on the part of a medical witness in venturing to express an opinion of the cause of death when he has not sufficient data before him,—are open to correction by another tribunal. It is impossible to say, however, how many cases of violent death are thus yearly concealed from the knowledge of the public, by the disgraceful manner in which such inquiries are conducted. A correspondent, whose letter will be found elsewhere, has addressed us on this subject;* but the case to which he refers is of slight importance compared with that on which we have here commented. The Health of Towns' Commissioners propose to reform these abuses, and we trust that their views will be carried out. Whenever there is an inquest there should be uniformly a complete post-mortem examination of the body: the cases of accidental death in which this duty might be fairly regarded as superfluous, are very few compared with those in which it is absolutely indispensable. Neither coroners nor medical witnesses are justified in waiting for the confession of accomplices or others, before resorting to an inspection of the body†. It is always the principal, and often the

only source of evidence of the real cause of death. It is now the interest of coroners not to resort to it, apparently because an additional fee must be paid to the medical witness: and to what results is this kind of parsimony likely to lead? Let us refer for an answer to the case of this unfortunate lunatic, and to a disgraceful instance of *concealed murder* not long since reported in this journal.*

In the meantime this case conveys a sufficient warning to medical witnesses, that they should never express an opinion of the cause of death, until after an opportunity of inspecting the body has been afforded to them. A coroner cannot insist upon a medical opinion, unless he has furnished the witness with the means of procuring sufficient data for forming it. If medical practitioners resolutely acted on this principle, there would be fewer unnecessary inquests, and those which were held, would be better conducted. If a coroner will dispense with a post-mortem examination on account of the extra fee which he must temporarily advance to the witness, let him take upon himself the responsibility of deciding what is the cause of death. This would soon bring the question to a fair issue. In the meantime, he has no right to throw this responsibility upon another.†

Wx elsewhere‡ insert the report of a recent trial on a charge of misdemeanor for a violation of the Apothecaries' Act. The prosecution was instituted by the Apothecaries' Society, and the result is the conviction of the offender, who has hitherto successfully set the Society at defiance. The twenty-pound penalty

* See p. 921.

† The medical witness states, in a letter to the *Times*, that he made a post-mortem examination, *of his own accord, after the inquest*. The coroner does not appear to have suspected that a lunatic could, by any possibility, die from any other than a natural cause! Do the county magistrates allow a coroner his fee for an inquiry thus *misconducted*?

* Vol. XXXVII. p. 76.

† Since writing the above, we have seen in the *Times* an article in which the remarks upon this case are very similar to those which we have here made. We think it therefore proper to state, that our article was in the printer's hands on Monday, while that of the *Times* was published on the day following.

‡ Page 916.

clause has until now proved a safe shield to those who, like Mr. Sweetman, preferred practising medicine without incurring the trouble and expense attendant on the usual course of study, or undergoing the ordeal of an examination; but all hope of thus evading the statute is now at an end. We congratulate the Society upon the result, as also upon the clear and explicit declaration of the law by Mr. Baron Alderson. To tolerate practitioners of this kind, is not merely an injury to the public, but it is holding out an inducement to all unscrupulous persons to enter upon the practice of medicine without any sort of licence.

From the address of the learned judge, it would appear that Dr. Coffin's assistant, "Mr. Flitcroft, the vender of herbs," who was lately tried and convicted at the Bolton Quarter Sessions for a similar misdemeanor,* has undergone the punishment which should have been assigned to Mr. Sweetman, namely, a month's imprisonment! Fortunately for the last-mentioned misdemeanant, his lordship and the counsel for the prosecution treated this as "the first prosecution of the kind," whereas it was the second, and therefore, if there be any justice to the prosecutors and public, in discharging him who happens to be the first convicted of a particular offence under a statute, Mr. Flitcroft has not only a strong ground of complaint, but he is equitably entitled to some compensation! We dispute, however, altogether the propriety of discharging prisoners under these circumstances; it makes the law a mere lottery, in which the offender can speculate on his chance of escape; whereas its efficiency as a preventive of crime, depends on the certainty of some kind of punishment being administered when the facts are clearly proved. At any rate, it is

assuredly proper, if such a principle be adopted, to take care that the leniency falls to the share of the right person. In this case a mistake has been made, and it would be only fair that Mr. Sweetman should indemnify the American "vender of herbs" for the month's incarceration he has undergone, when, according to Mr. Baron Alderson, "the justice of the case in a first conviction would probably" have been "met by the defendant entering into recognizances to appear and receive judgment if he should be required to do so!"*

The results of these two cases establish the fact, that the Apothecaries' Society possesses powers for the repression of the illegal practice of medicine not only greater than had been hitherto supposed, but far more stringent than any which Sir James Graham had proposed to assign to them in any one of his four Medical Reform Bills. Holding, as we do, the opinion that the unlicensed practice of *medicine* is as decidedly injurious to the public, as the unlicensed practice of *law*, and that not a single argument can be adduced for the maintenance of the one, which would not equally apply to the maintenance of the other, we trust that the Apothecaries' Society will not surrender these powers except under the condition that others equally stringent and equally inexpensive are substituted for them.

* Nothing can be more preposterous than giving this species of "benefit of clergy" to an offender, because he happens to have been the *first* to commit a misdemeanor, with the full knowledge of the illegality of his conduct! Leniency should be dealt out to individuals upon *moral* and not upon *arithmetical* principles! The first infringer of an act may be a most unworthy subject for leniency, while the second or third may have a fair claim to commiseration. It is the mode in which the offence has been committed, and the general character of the offender, which should guide punishment in such cases. If we are correctly informed, Mr. Sweetman not only practised medicine without a license after due notice from the Society, but he actually addressed a circular to other unlicensed practitioners to aid him in *resisting* the prosecution which the Society was thus compelled to institute! In France, Mr. Sweetman would at least have been

* See our number for May 7, p. 811.

VARIOUS paragraphs have appeared in the English and French medical journals, respecting an alleged case of poisoning at Nice; in the present number* will be found a full and authentic report of this case. The most unjust imputations had been thrown on Dr. Gurney in reference to the death of his patient, whereas it would appear from the facts that there was not the slightest ground for the statement so positively made in the continental periodicals, that the deceased had been killed by an overdose of prussic acid and morphia administered by her physician. Without dwelling upon the insufficiency of the divided doses to have caused death under the circumstances, the symptoms clearly show that there was no ground for the charge, and the post-mortem inspection of itself revealed a sufficient cause of natural death. If charges of this serious nature are to be raised upon such frivolous pretences, no medical practitioner can hereafter safely venture to prescribe any active medicine in ordinary doses. In publishing this full report, together with the certificates on the case of the deceased,† we believe that we are only doing simple justice to Dr. Gurney; and we trust that our French contemporaries, the *Gazette Médicale*, the *Gazette des Hôpitaux*, and the *Union Médicale*, through which journals the unjust accusation has been widely circulated throughout Europe, will see the propriety of transferring to their columns, this report of the real facts of the case. What it may thereby lose in dramatic interest, it will gain in truth.

condemned to pay all expenses incurred by his contumacy. The equity of the English law, however, is manifested in letting the convicted offender go scot free, and in levying a fine upon those who undertook the prosecution on public grounds,—by compelling them to pay the necessary expenses!

* Page 205.

† See our last number, page 874.

WE intend to publish in our next number the whole of the documents connected with the case of a Mr. J.D. Blake, "a pastrycook and confectioner" at Taunton, who is reported to have lately succeeded in procuring the diploma of the Royal College of Surgeons by false medical certificates! At the present time, when the improvement of the profession by legislation is contemplated, such a subject demands serious discussion. It is, therefore, much to the credit of a number of professional men in Taunton, that they have brought to light these most disgraceful proceedings: they have hereby shewn themselves to be the true supporters of the honour and respectability of their profession. Will our readers—we mean especially those who remember the days of Cooper and Abernethy—believe us, when we say that "a retail pastrycook and confectioner" became converted, by a year's grinding at a metropolitan medical establishment, celebrated for its low fees and general cheapness, into a member of the Royal College of Surgeons of England? The fraud in the certificates was not discovered until after the diploma had been obtained, and for this fraud the College is not responsible; but we are curious to know who were the examiners, and what were the questions put to the "retail pastrycook" which could justify these gentlemen in giving their letters testimonial to such a candidate! Either he must have had a rare power of acquiring a thorough knowledge of the art and mystery of surgery within an incomparably short period, or they must have been very easily deceived by the book-knowledge imparted at one of the cheap grinding establishments of the metropolis.

WE lately had occasion to announce the publication of three valuable courses of lectures by Mr. Bransby Cooper, Dr. West, and Dr. Bird. These courses have been commenced, and will be regularly continued until they are completed. We have now the additional gratification of announcing for immediate appearance in this journal, a series of lectures by other gentlemen well known in the profession. In the present number we commence the publication of the Croonian lectures, lately delivered by Dr. Budd, at the Royal College of Physicians; and in the next number, we shall insert the first of a series of lectures on Nutrition, Hypertrophy, and Atrophy, recently delivered at the Royal College of Surgeons by Professor Paget. In the same number will appear a clinical lecture on surgery, by Mr. Cæsar Hawkins, surgeon to St. George's Hospital; and these will be followed at intervals by other lectures upon the surgical cases admitted into that institution.

The Croonian lectures, delivered last year by Dr. Copland, at the Royal College of Physicians, will be shortly published; some delay has taken place in their preparation for the press, but their practical character will, notwithstanding, ensure them a favourable reception. Mr. Tomes's lectures on Dental surgery will, ere long, be completed.

We shall only make one remark with respect to these lectures, namely, that they are not mere abstracts from the notes of a short-hand writer unacquainted with professional subjects, but they are, in every case, printed from original documents; and before publication they uniformly undergo careful revision by the respective lecturers.

Reviews.

On Cataract, Artificial Pupil, and Strabismus. By F. H. BRETT, Esq., M.D. F.R.C.S., Surgeon on the Bengal Establishment, (Retired) &c. 8vo. pp. 82. Churchill. London, 1847.

WE have rarely met with a book which contained less that called either for censure or commendation than the slender treatise by Mr. Brett which now lies before us, or a work which presented fewer salient errors or a smaller amount of new information emanating from the author himself. It is, in fact, a mere common-place, but accurate and judicious, condensation of our present knowledge of the subjects named in the title, with as small an admixture of originality as could be expected, in the description, by an experienced surgeon, of certain operations and diseases which had been a hundred times before fully described by other surgeons of equal or greater experience. There certainly appears to exist in London a *lex non scripta* by which every surgeon and physician who makes his *debut* in the metropolis is compelled, will he nill he, to prove his fitness for the high duties to which he aspires, by the publication of a good, bad, or indifferent work on some medical subject, and that entirely without restriction to those topics which are new and useful, or exclusion of those which are stale and unprofitable. The work before us has evidently been written in obedience to this unjust and oppressive law of society. We shall take an early opportunity of investigating the grounds upon which this severe ordinance rests, and of displaying its barbarous tendency. At present we need do no more than say that it gives rise to the publication of a vast amount of worthless literature, the task of perusing which falls most heavily upon those who are so unfortunate as to hold the censorship of the medical press.

Table of Urinary Deposits, with their Tests for Clinical Examination. By RAY CHARLES GOLDING, M.D. Renshaw, Strand, 1847.

THE substance of this most useful table was published by the author some

time since in the pages of this journal. He has here reproduced in a form convenient for reference, the results of his observations on the most striking chemical characters of the various kinds of urinary deposits. The tests which he has selected for their discrimination, are those which are most approved, and only such details are entered into as are necessary for the correct understanding of their application. We can strongly recommend this table to those students and practitioners who desire to become acquainted with the chemical pathology of the urine; and who are indisposed to dive for information into elaborate treatises on the subject.

A Description of an Apparatus for the Inhalation of Ether Vapour, with some remarks on its use. By S. J. TRACY. Pamphlet, pp. 30. Ferguson, Giltspur-street. London, 1847.

MR. TRACY is well known as the inventor of a new form of ether-apparatus, a description of which, with an engraving, appeared in a recent number of this journal. He has here reprinted his remarks on the inhalation of ether, referring to many instances of its success under severe operations. Mr. Tracy also states that he has extracted teeth from five hundred persons while under its influence, and that in no case did any untoward results arise from its inhalation. The pamphlet contains some plain instructions, useful for those who have not already made up their minds on the best mode of employing the new hypnotic.

The Cyclopædia of Anatomy and Physiology. Edited by R. B. TODD, M.D. F.R.S. &c. Part XXVIII. London: Sherwood. 1847.

THIS part of the Cyclopædia carries us through some important articles in the letter P., from Par Vagum to Pisces. Among the articles which deserve to fix attention are those on the Perineum, by Dr. Mayne, and on the Pharynx, by Mr. Trew. The most prominent essay is that on Fish (Pisces), by Mr. T. R. Jones. The reader will find here a very full account of the anatomical and physiological structure of this class of animals, illustrated by numerous engravings.

The third volume will be completed by another number, announced for appearance in June: but the Editor proposes to make a fourth volume, which it is expected will not consist of more than six numbers.

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Monday, May 3, 1847.

Dr. WILLIAMS in the Chair.

Dr. Garrod's specimen of Cystine.

[Continued from p. 873.]

IN the next case the patient was a young man of fair complexion and scrofulous habit, aged twenty-three. One sister died lately of phthisis; grandfather suffered from calculus; father also suffered from renal disease.

This patient, about a year since, had symptoms of dyspepsia. This was removed in a few days by an alterative and tonic plan of treatment. About six months after, he passed a small calculus, about the size of a pea, consisting of pure cystine, (No. 2,) having, for some days previously, suffered much from pains in the lumbar region. There was considerable pain when the calculus was passing the urethra. Lately, he has had another attack, and passed another small calculus. This patient has noticed that his urine has frequently a peculiarly sweet odour.

Dr. GARROD remarked that in both these cases we see that there are symptoms of dyspepsia which have been noticed by other observers; and in addition to this, in the first case above mentioned—disease in the urinary passages. The dyspepsia, in both these cases, was no doubt primary, but at times aggravated by the sympathy of the stomach with the kidneys. He had been induced to bring them before the Society more on account of the rarity of the occurrence of cystine, either in the form of a calculus or deposit in the urine, than from any particular novelty.

Dr. HENSLEY exhibited a specimen of

Alveolar (?) cancer of the stomach,

taken from a patient of Dr. Protheroe Smith, aged fifty-six, who had suffered for five years from an obscure affection of the stomach, and had at several periods had acute attacks, characterised by great hypochondriac and dorsal pain, constant vomiting, and excessive eructation, accompanied with

constipation and much febrile disturbance. In the intervals of the attacks, general debility, cough, and uneasiness in the left hypochondrium, nausea in the morning, occasional vomiting, spectral illusions, and habitual constipation, characterised her ordinary state of health. The acute attacks became severe in proportion to their frequency, and the attack from which she died was of a very aggravated form, the hypochondriac pain having extended to the base of the left lung, and other symptoms having supervened indicative of acute pleuropneumonia, the vomiting also being incessant. The post-mortem examination was made twenty-four hours after death. The heart was displaced to the right of the median line by the pressure of two quarts of bloody serum in the left pleural cavity, the lung itself being compressed into a small fleshy mass.—Abdomen:—The peritoneum covering the under surface of the diaphragm was of a deep red colour, and much injected. The stomach was firmly attached to the diaphragm by means of an oval lobulated tumor, of the size of a large egg, which was enclosed within the folds of the small omentum, and was closely connected to the lesser curvature of the stomach, extending from its cardiac to near its pyloric orifice. Externally it was covered by the omentum and fat; when cut across, it presented irregular radiating white fibres, dividing its substance into lobuli, containing a yellowish white substance of softer consistence. Portions of the tumor were more dense, consisting partly, however, of adipose tissue. The stomach was of its natural capacity; its mucous membrane, surrounding the cardiac orifice, was extensively ulcerated. A section of the tumor subjected to microscopical examination, presented

1. A granular blastema.
2. Numerous nucleated cells and parallelograms.
3. Other cells, nucleated and circular, in clusters, which, from their high refractive power, appeared to contain something analogous to fat.
4. Adipose tissue and oil globules.

The liver was small, pale, and fatty.

Dr. Hensley remarked, that from the history of the case we may justly conclude that the immediate cause of death was perforation of the stomach through the adherent diaphragm into the left pleura, exciting inflammation of that membrane and rapid effusion. This, however, owing to the state of distension of the pleura with so much fluid, the unsuspected nature of the case, and the short time allowed for the inspection, could not be positively evidenced. With regard to the nature of the tumor, there could be but little doubt of its being that species of carcinoma described by Cruveil-

hier under the name of the pultaceous cancer. Though it did not present the jelly-like material contained in distinct pouches, described by Otto as the characteristic of colloid cancer, it approached nearer to that form than to any other.

MEDICAL SOCIETY OF LONDON.

Monday, April 19 and 26, 1847.

Mr. DENDY, President.

On the Relation subsisting between Thought, Voice, and Articulation, and on the Derangement to which these Functions are liable from Mental Emotions. By JOHN BISHOP, Esq. F.R.S.

THERE are few persons whose emotions on some subjects do not disturb the equilibrium of the nervous force to such an extent, as to interfere materially with the normal exercise of the intellectual, respiratory, and vocal functions. The extraordinary derangement of nervous force displayed in excited emotions, the control exercised by these emotions over the rest of the nervous system, and their influence on the living being in health and disease, render them a subject alike important to the physiologist and the pathologist. When the force which produces emotion is in excess, its tendency is to paralyze the intellectual, and to disturb the vital functions, in such a manner as to induce organic disease, and in some cases cause even sudden death.

Whatever may be the nature or cause of the changes in the brain which correspond to the several kinds of emotion, the changes themselves are, in the opinion of Müller, propagated from the brain to the medulla oblongata, the latter in its turn influencing the action of the respiratory muscles through the medium of the corresponding nerves, and affecting in an especial manner the motor nerves and muscles of the face. Dr. M. Hall has brought forward many facts which tend to show that the emotions are seated in the medulla oblongata, or at least in some part of the nervous centre below the cerebral hemispheres; and he has pointed out their influence on the paralyzed side in hemiplegia, when that of the brain is cut off.

The influences of the passions are transmitted by the motor nerves, producing effects corresponding to the nature of the passion; and may either increase, diminish, or even paralyze, the action of remote parts during a longer or shorter period. It is however observed, that similar phenomena may be produced by different emotions, and that weeping, sighing, and sobbing, may alike follow intense joy, anger, or pain. Anxiety, fear, and terror, depress the action of the brain and spinal chord; and the legs in con-

sequence tremble, and are scarcely able to support the body; the look is vacant, and devoid of expression; the functions of the respiratory and vocal organs are deranged, and cannot be controlled by the will.

In dealing, then, with this question, we are restricted to the study of the phenomena themselves, and to the circumstances which experience shows will tend to restore to its normal intensity the force, which is either excessive or deficient, in some portions of the nervous system.

The phenomena of the animal and vital functions show that the whole of the nervous matter is influenced by a force, which is in constant action in the automatic, and in occasional action in the voluntary functions;—that this force is limited in amount;—and that consequently, if an undue portion of it be expended upon any particular function, the other functions, or at least some of them, will necessarily be deteriorated. The connexion between the formation of ideas and the various emotions is well established, and the latter are placed in some degree under the control of the will; indeed, were not the emotions regulated by the intellectual power, man would not occupy the lofty position which he now holds in relation to the lower animals, but would be the prey of his own passions. That volition has a decided control over the emotions, especially those which are exhibited through the agency of the voluntary muscles, is unquestionable; but its control over the organic system is very much restricted; and on the stomach, heart, and other organs supplied by ganglionic nerves, the emotions act almost independently of volition, except under extraordinary efforts of the mind.

It is therefore not surprising that such functions should have a great influence over the voice, speech, and respiration. The emotions which arise in the system of a person when he is about to address an audience are often so overpowering, that the voice loses its natural volume, becomes tremulous, and sometimes inaudible; the respiratory functions are irregular, the flow of ideas is impeded, and the articulating organs perform their office so imperfectly, that he who is generally ready and fluent in conversation, hesitates, stammers, and cannot utter a single connected sentence. Now, if persons who at other times have a perfect voluntary control over the organs of voice and speech, partially lose it under the circumstances just mentioned, *à fortiori*, those who have at all times an imperfect control over their articulation will, in similar states of feeling, find their powers paralyzed and their speech defective. It is to this point more especially that I wish to draw attention.

In the memoir on stammering which

formerly read to the Society, I endeavoured to explain the principles on which the successful treatment of defective articulation must be based. On the present occasion, my purpose is to explain the conditions necessary to be observed in order that the control over speech, when acquired, may be maintained; since without such knowledge the duration of this power is uncertain, and the patient is liable to relapse. In most cases which have come under my observation, patients who had attained the habit of speaking very fluently when not over-excited, relapsed the moment any thing occurred which produced emotions of fear or anxiety. In order to counteract this tendency, it is necessary, as soon as the power to articulate correctly in private is acquired, to accustom the patient to read and speak daily before strangers. Under this discipline, continued for a longer or a shorter time, the emotions gradually subside, and the power of volition over them is strengthened, and it is not until the patient has been thoroughly exercised that any dependence can be placed on his retaining what he has acquired.

In many persons, the intellectual and vocal organs are capable of acting very well separately—as, for instance, in the solution of a difficult equation by the former, and in ordinary reading aloud by the latter; but the same persons often fail in combining these functions—as is evident in those who, without being under the influence of fear, nevertheless cannot express their ideas clearly in public. This defect in the power of association generally commences early in life, and is chiefly owing to the imperfect training of the vocal and mental functions in our schools. It must be remembered, that none of the series of actions under consideration is automatic, but that all are dependent on volition, exercised almost simultaneously, through the instrumentality of a multitude of organs. The working of such exquisite machinery cannot be acquired without much practice; and when, on investigation, we find that such a variety of successive physical changes is necessary for the production and vocal expression of a single idea, it is rather a matter of astonishment that the generality of persons speak so well as they do. It is, moreover, an object of considerable importance to lessen the excitability of patients labouring under these nervous affections, by appropriate medical treatment, which may tend to aid the practitioner in bringing the patient into such a state as will enable him to exercise a voluntary control over the mental and vocal functions simultaneously.

It might be imagined by some persons that this is merely a psychological inquiry, and beyond the range of therapeutical stu-

dies; but on more mature reflection it will be found, in this as in other cases, that those who exclude from their view the mental states of patients, and restrict themselves to the consideration of their bodily conditions, neglect the operation of an agent which controls, more or less, all the functions of the system.

Mr. BARLOW observed, in reference to the effects of emotion upon paralysed limbs, to which the author had adverted in the early part of his paper, that he had, some time ago, described a case of hemiplegia occurring in a child five years of age, in whose affected extremities there was not the slightest voluntary motion, but perfect reflex actions and strong muscular contractions, consequent on agitation of the mind. Thus, when he dipped his hand into water, as though for the purpose of sprinkling some upon the child, it became agitated, the fingers of the paralytic arm contracted, and the limb was bent and raised forcibly and convulsively; and whilst it remained so, it was curious to watch the contrasting effects of passion, as exemplified by the affected and healthy arms. The latter, being controlled by voluntary power, shared not in the deranged motions of the former. He had seen another very similar case, in which affections of the mind, as fear, joy, surprise, excited an arm to lively action, which, beyond all doubt, was completely lost to all efforts of the will; and Sir Charles Bell had alluded to a most interesting case, in which the facial had ceased to operate as a voluntary nerve, but retained its office as a nerve of expression. As to the immediate relation of emotion to stammering, it was a familiar fact that it mostly aggravated, and at times produced and perpetuated the affection. He well remembered seeing a patient whom Mr. Bishop had treated, brought before the Society to show his improvement: confused by the spectators, the boy so hesitated that no true judgment could be formed upon the matter. Though very opposite in its cause to such cases as had been mentioned, he would just make reference to a remarkable instance of stammering dependent upon intestinal irritation which Dr. Bostock had narrated; and it was reasonable to suspect that physical irritation of one kind or other in remote parts originated the affection more frequently than was supposed. Now if this were the case, one plain reason was beheld why cases of stammering should be entrusted to medical inquiry, and not, as frequently happened, placed in the hands of persons who were in perfect ignorance of the real nature of the disease. Dr. Marshall Hall, referring to certain forms of the affection, had aptly likened it to "a very partial chorea." Complex and various, and hard

to be discovered, often, as its causes were, it demanded comprehensive and scientific investigation, and rational treatment, physical and moral. With respect to the opinion which he had expressed, as to cases of stammering being most advantageously submitted to medical observation, he might observe, that he had been led to the remark by Dr. Bostock's relation of a particular case. He could not suppose that like instances would not hereafter happen, nor that the form of irritation which was active in that instance was the only one able to excite the malady; and he had yet to learn the exact circumstances under which it was a recommendation to a treator of stammering to be ignorant of the structure of those parts by which articulation was performed, and, perhaps, to be incapable of recognising a larynx if he should chance to see one.

Mr. STREETER said, that the subject of impediment of speech was one which he had long regarded with attention, from special family circumstances. The alleviation of stammering was a common field in which elocutionary art and medical science had met, and were contending for the mastery. He believed the subjects of this infirmity cared little whether they were to be designated as pupils or patients, could they but attain effectual and permanent relief. It was certainly gratifying to our profession to remember that at an early period this distressing affection had engaged the attention of medicine. A Dr. Wallis, as long back as 1687, prescribed directions to a patient for helping his speech. It was, however, but just to add, that the merit of publishing those directions belonged to Mr. Thelwall, the distinguished elocutionist, who gave them to the medical profession in 1803, in the *London Medical and Physical Journal*, accompanied with an excellent commentary. He also published two letters to Mr. Cline, sen., to arouse attention to this subject, and expressed his hope that "the study and treatment of impediment of speech would be taken up by the profession as a branch of medical science." Mr. Streeter had also, on his way to the Society this very evening, been informed by Mr. Richard Cull that a committee had actually been formed in 1812 by Sir Astley Cooper, Sir Humphry Davy, Mr. Thelwall, and Dr. Callcott, a doctor of music, for the express purpose of investigating the mechanism and functions of voice and speech, but which led to no result, in consequence of the untimely death of the last-named gentleman. The subject had likewise been pursued by Dr. Arnott and Dr. M'Cormack. With respect to treatment, the elocutionist relied upon exercises of the vocal organs; the surgeon, upon certain operations upon the tongue, the uvula,

the tonsils, &c. Operative interference he held in utter abhorrence, and vocal training, though always useful, was often inadequate, in the choreal and tetanic varieties, to a perfect and permanent cure. The specialties of the defective utterance, and of the anatomical conformation, must be carefully studied in each instance before deciding on its appropriate treatment.

Mr. BISHOP here objected to discussing the whole subject of the etiology of impediments of speech in a paper entitled "The Relations, &c."

The PRESIDENT considered the whole subject of impediment too comprehensive for one evening's discussion, and hoped the speakers would confine their remarks within the limits expressed by the title of the paper.

Mr. STREETER said he would endeavour to keep within the limits desired by the author, and prescribed by the chair. He thought the author had not clearly distinguished in his present paper between confusion of ideas, want of words, and incapacity of uttering words. Confusion of ideas arose from imperfect operation of the intellectual powers; want of words, from imperfection of verbal memory. Neither of these ought to be confounded with vocal incapacity to utter ideas previously arranged and clothed in language by the mental powers. This last arose from some imperfection of the vocal organs, or from an imperfect command over the voluntary movements of the respiratory and vocal muscles. Neither could he coincide in the theory adopted by the author, that the medulla oblongata was the seat of the emotions. This extraordinary conception could only have arisen from confounding the expression of emotion, by the instrumentality of the respiratory movements (over which part of the medulla oblongata presides), with the primary seats of the emotions—viz. the superior, the lateral, and the posterior parts of the cerebral hemisphere. Not less extraordinary was the hypothesis of the existence of one common stock of nervous energy, which, if too rapidly expended upon one part of the system, caused a deficient supply to the remainder. Did excessive action of the optical nervous apparatus lead to more than exhaustion of itself? It did not create a deficiency in the gustatory, the auditory, or the olfactory functions. The real fact was, that each separate nervous centre generated its own peculiar nervous energy, whether it was associated with intellectual, emotional, motive, or sensual functions, and that each cerebral nervous centre sent down its mandates to the automatic or excitomotor centres of the medulla oblongata and medulla spinalis by descending nervous fibres, and thereby produced all the voluntary or in-

stinctive or morbid movements of the body.

Mr. BISHOP said that the hypothesis of independent centres of nervous force mentioned by Mr. Streeter was inconsistent with the observed phenomena of the mutual influences existing between the intellectual, mechanical, and chemical functions of the body. If independent centres of force really existed, over-excited action of one portion of the nervous system need not disturb the equilibrium and normal action of the rest, which is contrary to all experience, and to the old maxim of the

"Mens sana in corpore sano."

Medical Trials and Inquests.

CENTRAL CRIMINAL COURT.

Thursday, May 12.

(Before Mr. Baron ALDERSON.)

Conviction on a Charge of Misdemeanor for an Infringement of the Apothecaries' Act by Practising without a License.

MICHAEL SWEETMAN was indicted for a misdemeanor in having unlawfully practised as an apothecary without having undergone the required examination and obtained a license from the Apothecaries' Company. Mr. Clarkson appeared for the prosecution, and Mr. Ballantine and Mr. Huddleston for the defence.

The defendant, who surrendered, pleaded guilty to the indictment.

Mr. BALLANTINE said that he felt he had no answer to make to the charge on the part of the defendant, and he could only inform the Court that there was no imputation upon his moral conduct, or of unskillfulness; but still he had, no doubt, infringed the law, and the Apothecaries' Company were perfectly justified in adopting the present prosecution. With these remarks he must leave the defendant in the hands of the Court. Mr. Baron ALDERSON said, he believed this was the first prosecution of the kind. Mr. CLARKSON said it was; but he thought it right that it should be publicly known that it was the intention of the Apothecaries' Company to prosecute in future in every case; as they were determined to put an end to the system of unauthorized and unqualified persons acting as apothecaries, as such a proceeding was calculated to do great injury to the public.

Mr. Baron ALDERSON said the offence, no doubt, amounted to a misdemeanor, but, as this was the first prosecution of the kind, the justice of the case would probably be met by the defendant entering into recognizances

to appear and receive judgment if he should be required to do so; and if he refrained, from carrying on his calling, or obtained a legal license to enable him to do so, he would probably hear no more of the matter.

Mr. BALLANTINE said, that the defendant was anxious he should state that he had pursued a regular course of study for the profession in which he had been engaged, and he would have taken out a license but that circumstances had prevented him from doing so. He would now, however, immediately take the necessary steps to pass the required examination and obtain a license.

The COURT then ordered the defendant to enter into his own recognizances in £100 and find two sureties of £50 each, to appear and receive the judgment of the Court, if required.

Conviction of Two Attendants at a Lunatic Asylum, of the Manslaughter of a Lunatic.

Samuel Garret, and James Downes, were indicted for the manslaughter of William Rank, a lunatic, by striking and beating him, and by casting him upon a bed and kneeling on his body, and other acts of violence, thereby inflicting mortal injuries, of which he died.

Mr. Clarkson and Mr. Bodkin prosecuted, and Mr. Ballantine and Mr. Huddleston defended the prisoners.

Mr. CLARKSON, in stating the case, said that this prosecution was instituted by the Commissioners of Lunacy, the deceased being a lunatic, and his death having taken place in a lunatic asylum at Bow, called Grove-hall, which, in common with all establishments of a similar character, were under their control, and the death was alleged to have been occasioned by violence inflicted upon him by the prisoners, who were employed in the establishment, and had the charge of some of the patients. The establishment in question was kept by a gentleman named Byas, and in the onset, he thought it right to state, that not the slightest blame appeared to attach to him or the medical officers of the establishment, *who were entirely ignorant of any violence having been made use of*, it being quite contrary to the regulations that violence should be used to a patient; but the moment they became acquainted with the fact, they took all the steps that were necessary to obtain a full inquiry into the circumstances of the transaction. The learned counsel then proceeded to state the facts of the case, and it appeared that the deceased was an agricultural labourer, and about fifty years of age. On the 27th of March he was in one of the wards with about twenty other patients, and the prisoner Garrett, who was the head keeper in the same ward, it appeared, was sleeping there; and during the night, the deceased, who was

frequently very violent, got up, and was in the act of endeavouring to strangle him with a leathern strap, which he was trying to get over his head, when his cries brought one of the patients, named Mecklenburgher, to his assistance, and with the aid of another keeper the deceased was secured, a strait waistcoat was put on him, and he was put on the bed, and his arms and legs were secured by sheets and towels, and he was left in that state, his arms being behind him, until 3 o'clock the next morning. About that time it seemed that the two prisoners went to the bed where the deceased was lying, and took off the strait waistcoat and released him, and the moment they had done so the deceased renewed his attack upon Garrett, and made a violent blow at him; and it appeared that upon this both the prisoners attacked him. Downes first knocked him down, and when they had got him upon the bed, Garrett kneeled upon his chest, while the other prisoner struck him with all his force upon the sides of his body and other places; and it was stated that at this time the deceased was perfectly helpless, and the blood was running from his mouth. After this proceeding the deceased became very ill, and died on the first of April, *and it appeared that a coroner's inquest was held two days afterwards, when the jury found by their verdict that the deceased had died a natural death, from effusion of blood upon the heart, which might have been accelerated by the violence necessary to restrain him, and that no blame was attributed to the keeper of the asylum or any officer of the establishment.* After this verdict was returned, a *post-mortem examination* of the deceased was made, and it was then discovered that *five of his ribs were broken*, and that one of the broken ribs had penetrated the pleura, thus causing the inflammation which evidently occasioned death, and the present indictment was preferred against the prisoners.

The above facts were put in evidence, and Stride Fry a keeper, employed in another ward of the establishment, deposed that, upon hearing a noise in the deceased's ward, he went there, and saw the prisoner in the act of beating the deceased, and Garrett, while Downes was striking him, exclaimed, "Give it him;"—and he also said, that when they were putting the strait-jacket on him they pulled it very tight, and Garrett struck him on the belly, and told him to keep it in, and after this the deceased sighed, and leaned forward, and a quantity of blood ran out of his mouth, and it appeared that Garrett then ordered Downes to take him down stairs and lock him up in a cell.

This witness on cross-examination said, that although he really believed at the time that the prisoners might have killed the deceased, he only said to them "Drop it."

and gave no information to the master of the establishment or to the medical officer, or in fact said anything at all upon the subject until after the death of the deceased.

Dr. Palmer, the medical officer of Grove Hall, deposed that he saw the deceased on the morning of the 27th March, after the occurrence, and at this time he was in a secluded cell, and he was informed that he had made an attempt to strangle the keeper, and that some violence had been used to restrain him. The deceased had frequently been violent, and on these occasions it was usual to restrain him and place him in seclusion, but it was against the regulations of the establishment for any of the keepers to make use of a strait waistcoat except under his sanction and in his presence. The deceased died on the 1st of April, and in consequence of what was stated *before the coroner, he thought it right to make a post-mortem examination*, and he then discovered marks of violence on the chest and the sides, and five ribs were broken, and one of the broken ribs had penetrated the pleura, and this was the cause of death.

On being cross-examined, Dr. Palmer said, that the deceased was suffering from disease of the heart, and he found this organ very much enlarged. Excitement was likely to prove fatal to a man in that situation, and before the coroner he stated his opinion to be that the death arose from effusion of blood upon the heart, and that the excitement of the struggle might have produced that result. When, *however, he opened the body, and found the broken rib had penetrated the pleura, that afforded a clear and distinct cause of death.**

Mr. BALLANTINE, at the close of the case for the prosecution, addressed the jury on behalf of the prisoner Garrett, and called their attention to the position in which he was placed by being attacked in the night by a raving maniac, and an attempt made to strangle him, and he said that at that time he surely would have been justified in resorting to considerable violence for the purpose of protecting himself from such an attack, and to restrain the party making it from further violence, and said that, as the deceased appeared to have been knocked down at that time by another keeper, he might then have received the injury which caused his death. The learned counsel then went on to express an opinion that the character of the subsequent proceedings had been very much exaggerated, and that Garrett had used *no more violence* towards the deceased than was absolutely necessary under the circumstances.

Mr. HUDDLESTONE also addressed the jury

for the other prisoner, and several witnesses were called who gave both prisoners a good character for *humanity* and general good conduct.

Mr. Baron ALDERSON, in summing up the case, said, that the keepers of lunatic asylums had a perfect right to make use of any reasonable violence that might be necessary to restrain their patients, and if violence, therefore, was made use of, it was not necessarily illegal. They were dealing with persons of diseased will, and if they resorted to violence to protect themselves from any attack that was attempted towards them, or to prevent their patients from doing injury to themselves, they were justified in so doing. He thought, also, the jury would feel that this right should not be weighed with too great nicety, for if it were it would put the keepers of such places in a position of very great difficulty in the discharge of their duty. At the same time it was very important that these poor unfortunate persons should be protected from all unnecessary violence, and that they should receive that protection which the law entitled them to; and the questions for the jury to decide were, whether the prisoners had used more violence than was necessary to restrain the patient, and whether that violence was the cause of death; and if they were satisfied upon these points it would be their duty to return a verdict of guilty.

The jury after deliberating for a few minutes convicted both prisoners, and Garrett was sentenced to six months' imprisonment with hard labour, and Downes to three months, the ground stated for this difference in the sentences by the learned Judge being, that the latter was an inferior officer, and appeared to have acted under the influence of the other prisoner.—*Times*.

POISONING BY OPIUM.

A VERY interesting case is related by Dr. M. Barry, of an infant aged 9 months, which had been poisoned by 30 drops of laudanum, and was not seen till seven hours afterwards, when in a state of profound coma. From this state it was aroused by the employment of electro-magnetism. At first, when the current ceased for a moment, the child sank into a profound sleep, and there was no marked amendment until the means had been continued for three hours; and four hours and three quarters had passed before it was thought prudent to discontinue their use. The child, however, then recovered without any further bad symptoms.—*Dr. West's Report on Midwifery, 1845-6.*

* For some remarks upon this evidence, see page 908.

Correspondence.

NECESSITY FOR POST-MORTEM EXAMINATIONS AT CORONERS' INQUESTS.

SIR,—The manner in which juries and coroners slur over the important trust committed to their charge of inquiry into the sudden death of a fellow-creature, is but too well shown in the report of an inquest on the 11th May.

The report, which I extract from the *Daily News*, states as follows:—

"*Death in a bath.*—By Mr. Payne, at the Queen's Arms, Newgate Street, on the body of James Unwin, aged 20, a medical student. The deceased went on Monday to the Ancient Baths in Bagno Court, Newgate Street, which are of pure spring water, the temperature not being at any time higher than 58° Fahrenheit. Deceased was unable to swim, and had incautiously entered the bath at a temperature too low for his system, which occasioned an attack of apoplexy. About ten minutes after he entered the assistant of the baths discovered him apparently drowned. Medical assistance was immediately called in, and the usual remedies resorted to without effect. Verdict, 'Death from sudden immersion in cold water, causing apoplexy,' the jury recommending that at all times a person should be in constant attendance in the baths. The proprietor promised to comply with the recommendation of the jury."

Now, sir, from this report it appears that no post-mortem examination of the body was instituted; I would therefore ask, how is it possible that the twelve jurymen can reconcile this verdict with their oath, which is, I believe, to inquire into the case to the best of their ability? It is true they may have done so, as far as lay in their power, but is it not imperative upon them to take every means to arrive at a correct verdict? Such neglect is of but too frequent occurrence. Take, for example, cases of burns—(accidents which occur very frequently)—the cause of death may be particularly clear, in the opinion of the jury, but I maintain that in these cases there exists great opportunity of overlooking crime. For example, a man wishes to rid himself of a child; he may administer poison, and then, by setting the child's clothes on fire, screen himself from suspicion by this means. Such cases might occur, in which nothing but post-mortem examinations would reveal the cause of death, and thus by an anxiety to terminate the inquest a murderer may escape. "Found drowned" is another favourite verdict; no post-mortem examination is made, and the jury rest satisfied that

because the corpse was found in the water the individual must have been drowned! I maintain, sir, that the present system of returning verdicts rather, than otherwise, favours the escape of a murderer. All parties are anxious to finish the inquiry; coroner and jury, each and all, are influenced by but one feeling—the speed at which they can come to a verdict. The ordering a post-mortem examination usually requires another sitting, with which the coroner wishes to dispense; but there is no necessity for this,—the jury might view the body, and a medical man be in attendance to perform the examination immediately afterwards. But the subject is an extensive one, and some remarks from you, sir, would probably command more attention than from the humble writer of these few lines. If they but call your attention to the negligence of coroners and juries, and induce you to write on the subject, my object will be fulfilled.—I am, sir,

Your obedient servant,

A CONSTANT READER OF THE GAZETTE.
London, May 18th, 1847.

* * We refer our correspondent to our 37th volume, p. 76, and to our 38th volume, pp. 976, 1015, 1063. He will find that the subject of his complaint has been already most fully examined in this journal. It is not merely to save time, but to save the additional fee attendant on a post-mortem examination, that inquests are frequently slurred over. If an Act of Parliament were passed to the effect that a post-mortem examination should be performed *gratuitously* upon the order of a coroner, medical men would probably find that they would have full employment in this way. As it is, an extra fee is ordered, and thus a post-mortem examination is too frequently dispensed with in order to save expense. Many criminals owe their escape to this laxity.

THE MEDICAL REGISTRATION BILL AND THE NATIONAL INSTITUTE.

SIR,—I cannot but express my astonishment and regret on reading the resolutions published in the public papers by the Council of the National Institute of Medicine, against the provisions of Mr. Wakley's Medical Registration Bill; and for the following reasons:—

1st. The National Institute has misled every legally-qualified medical practitioner, however humble his qualification may be, to join that National Association, with the guarantee of being admitted to the full privileges of that class of practitioners whenever they obtain their expected charter.

2d. By such a procedure they have nominally given a legal guarantee to prac-

tise to those practitioners who do not possess the license of the Apothecaries' Company.

3d. On the face of their former proceedings this apparent generosity to their pseudo-legalised brethren was hailed as an omen of that good feeling in the profession which it has so long needed, and in that way has increased their numbers and influence.

4th. That in consequence of some offence given by, or pique at, Mr. Wakley, the Council now come forward and say, Mr. Wakley's bill "would permit persons possessing a single qualification to practise the three branches of the profession:" notwithstanding they have already registered such persons in their list.

5th. The Council intimate that Mr. Wakley's bill "would give increased facilities for practising medicine to the chemists and druggists;" when, on the face of the bill, every possible means has been taken to prevent such unjust and illegal interference.

6th. As the Council of the National Association know, as well as I do, that the provisions in Mr. Wakley's bill are just what the profession have a wish to require and demand; *i. e.* a legal recognition to practise according to the value of their degrees obtained by examination after regular study,—and that the mere certificate of the Registrar would not constitute the only title to practise,—and a ready mode of securing those legal privileges they have obtained, preventing the lives of her Majesty's subjects being tampered with by a host of ignorant quacks,—they (the Council of the Association) cannot any longer expect the support of those medical practitioners who think rightly on the subject.

Your obedient servant,

E. J. SHEARMAN, M.D.

Rotherham, May 11th, 1847.

MEDICAL REGISTRATION BILL.

HOUSE OF COMMONS.

(Friday, May 14th.)

MR. WAKLEY rose to move that the subjects of the registration of legally qualified practitioners in medicine, and the state of the laws relating to the practice of medicine in Great Britain and Ireland, be referred for consideration to a select committee, who shall report the evidence, with their opinions thereon, to the house. He would not detain the house by entering into the subject, beyond

stating that the qualified members of the profession were desirous that a law should be passed which might enable them to be distinguished from quacks and impostors. There were at present so many laws in existence with reference to the profession, and so many powers were exercised by the various colleges, that it was most desirable that a law should be enacted for the purpose of registering duly qualified medical practitioners; but the subject was involved in so many difficulties that it had not been found possible to lay down any rule or plan which should govern the house with reference to any enactment. It had, however, been suggested, and he believed the suggestion met the concurrence of Her Majesty's Ministers, that the governing bodies connected with the profession should be brought together before a committee of that house; that they should have an opportunity of expressing their views, and of stating their objections to the plan of registration which had been proposed; and it was extremely desirable, both for the profession and for the public, that some measure, founded upon the information obtained by the committee, should be adopted. He believed that the inquiry would occupy but a very short time, for the corporations and the medical practitioners generally had already formed their opinions on the subject; they would merely have to state those opinions before the committee; and he hoped that, as the result of the opinions thus expressed, some well-devised measure might be adopted which would be satisfactory alike to the profession and the public.

Sir G. GREY observed that, although he did not think the objections which had been argued against many parts of the bill of the hon. member for Finsbury ought to prevail, he was convinced that if that measure had been pressed, any chance of satisfactory legislation on the subject during the present session would have been hopeless. He considered that the hon. gentleman was taking the more judicious course in asking for the appointment of a committee, before whom the various conflicting opinions which existed on this question might be expressed; and he (Sir G. Grey) believed that such an inquiry would tend to lead to satisfactory results. He was willing to accede to the motion, on the understanding that the hon. member for Finsbury would not proceed with his bill until after the committee had made their report.

MR. WAKLEY stated, that he had postponed the second reading of his bill until Monday fortnight. He did not expect that the committee would have brought their inquiry to a close by that period, but he trusted that by industrious application they would conclude their labours in sufficient

time to enable him to proceed with his bill during the present session.—*Times*.

RESOLUTIONS ON THE MEDICAL REGISTRATION BILL.

At a meeting of Medical Practitioners residing at Wakefield, held at the Dispensary on the 8th of May, W. Starkey, Esq. in the Chair, it was resolved—

1. That, this meeting approving generally of the "Bill for the Registration of Medical Practitioners, and for Amending the Laws relating to the Practice of Medicine in Great Britain and Ireland," petitions be presented to Parliament in its favour.

Proposed by H. Dunn, Esq.

Seconded by W. R. Milner, Esq.

2. That the petitions be sent to the Honourable W. S. Lascelles for presentation.

Proposed by J. Bennett, Esq.

Seconded by S. Marshall, Esq.

3. That the thanks of this meeting be presented to Thomas Wakley, Esq. for his unwearied exertions to improve and amend the present condition of the Medical Profession.

Proposed by Dr. Wood.

Seconded by E. Walker, jun. Esq.

4. That a copy of these proceedings be sent to the *Lancet*, *Medical Gazette*, and *Medical Times*.

Proposed by J. Burrell, Esq.

Seconded by S. Secker, Esq.

(Signed) W. STARKEY, *Chairman*.
R. S. ROGERS, *Hon. Sec.*

DR. REID'S LECTURE ON VENTILATION.

ON Saturday last, Dr. Reid delivered, at Willis's Rooms, St. James Street, a lecture on Ventilation, in reply to a lecture by Mr. Faraday on Mr. Barry's plan of ventilating the House of Lords. Dr. Reid stated that the plan now adopted for heating, as well as the ventilating arrangements, had no novelty, for he had himself suggested and employed it many years since; but he did not consider it to possess such advantages as the system which he had been subsequently led to adopt. The lecturer corroborated his statements by the production of certain plans and documents.

The latter part of the lecture was devoted to a critical examination of the attacks which had been made upon him in the daily and scientific journals. Without entering into any discussion on this point, or even giving an opinion on the advantages and disadvantages of his mode of ventilating buildings, we may observe that he adduced sufficient evidence to show that he had been treated with great unfairness and injustice. Only that day, a severe article had appeared in the *Times* newspaper, imputing to him all the inconveniences stated to be endured by

the Bench and the Bar in the Session House at the Old Bailey. Dr. Reid's reply to this was, that he had had nothing whatever to do with the ventilation of the Old Bailey since 1842—i. e. for a period of five years! Dr. Reid had offered to superintend the use of the apparatus which was erected, but the Corporation declined his services. He therefore considered it unjust that he should be made responsible for the manner in which it might be worked. Our readers will agree with us that every inventor has a right to "fair play" when the merits of his invention are publicly criticised. It would be a hard case to make Mr. Stephenson, the inventor of the locomotive engine, responsible for the accidents which might accrue by a Railway company placing the control of the engine in the hands of a bungling stoker: and yet it does appear that Dr. Reid has been placed in a similar position, and exposed to much personal censure for results for which he could not be held fairly responsible.

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted Members on Friday, May 14.—A. N. Holmes—B. Button—F. Gardner—W. J. Anderson—F. C. Webb—J. Milner—W. Copeman—J. Lloyd—J. M. Shain—W. Ellis.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination and received certificates to practise on the 13th inst.—William Thomas Gaye, Minehead, Somerset—Joseph Delves, Tonbridge Wells, Kent—James Lewis Holloway, Charlbury, Oxfordshire—Richard Dechamp Ball, Plymouth—Joseph Williams, Williton, Somerset—William Watts, jun., Nottingham—Benjamin Daniel, Kingston-upon-Hull—Thomas Robinson, Wellingborough, Northampton—Thomas Bridgwater, Glasbury, Breconshire.

OBITUARY.

M. LISFRANC.

THIS eminent surgeon died on the 11th inst. in the fifty-eighth year of his age. He had suffered for some time from angina, but the immediate cause of his death was an attack of remittent fever. He was buried in the church of St. Sulpice on Saturday last, with the usual ceremonies which attend the funerals of scientific men in France, and a eulogistic oration was delivered over his grave by his colleague, M. Serres. There is no doubt that Lisfranc had deservedly acquired high rank as an operating surgeon, but a close attendance on his clinique at La Pitié more than twenty years ago, painfully impressed us with the conviction that surgery to him was not the art of avoiding, but of seeking

cases for operations. His bitter hostility to Dupuytren, and others of his colleagues, displayed itself in his lectures; for he rarely or ever referred to their practice without applying to them the most vituperative language. His conduct to the poor was marked by great kindness, whilst he is said to have displayed a churlish demeanour towards the wealthy. The deceased was a member of the Royal Academy of Medicine, Chief Surgeon of the Hospital of La Pitié, and Knight of the Legion of Honour.

J. P. POTTER, ESQ.

On Monday night, the 17th instant, at his residence, 308, Regent Street, John Phillips Potter, assistant surgeon to University College Hospital, and assistant demonstrator at University College. We have learned with regret that Mr. Potter died from the effects of a puncture received during a post-mortem examination. He is another professional victim to the fatality of these poisoned wounds.

On the 11th instant, at Bath, Joseph Channing Pearce, Esq. M.R.C.S. F.G.S. &c. (formerly surgeon, at Bradford Wilts), aged 35.

On the 11th instant, at Fulham, Joseph Holmes, Esq. surgeon, aged 47.

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, May 8.

BIRTHS.	DEATHS.	Av. of 5 Yrs.
Males.... 633	Males.... 486	Males.... 466
Females.. 607	Females.. 501	Females.. 446
1259	987	914

CAUSES OF DEATH.		Spring
		av.
ALL CAUSES.....	987	914
SPECIFIED CAUSES.....	985	909
1. Zymotic (or Epidemic, Endemic, Contagious) Diseases..	137	166
<i>Sporadic Diseases, viz.—</i>		
2. Dropsy, Cancer, &c. of uncertain seat.....	113	99
3. Brain, Spinal Marrow, Nerves, and Senses.....	167	158
4. Lungs and other Organs of Respiration.....	314	275
5. Heart and Bloodvessels.....	45	29
6. Stomach, Liver, and other Organs of Digestion.....	91	70
7. Diseases of the Kidneys, &c.....	12	8
8. Childbirth, Diseases of the Uterus, &c.....	22	10
9. Rheumatism, Diseases of the Bones, Joints, &c.....	12	8
10. Skin, Cellular Tissue, &c.....	4	3
11. Old Age.....	54	57
12. Violence, Privation, Cold, and Intemperance.....	14	28

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox..... 12	Convulsion..... 32
Measles..... 13	Bronchitis..... 66
Scarlatina..... 11	Pneumonia..... 78
Whooping-cough.. 33	Phthisis..... 119
Typhus..... 34	Dis. of Lungs, &c. 14
Dropsy..... 17	Teething..... 8
Sudden deaths.. 6	Dis. Stomach, &c. 1
Hydrocephalus.. 37	Dis. of Liver, &c. 8
Apoplexy..... 23	Childbirth..... 14
Paralysis..... 53	Dis. of Uterus, &c. 4

REMARKS.—The total number of deaths was 73 above the weekly average. One-half of the excess of deaths is to be ascribed to the fatality of pulmonary diseases, especially of bronchitis among the aged, and pneumonia among the young.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer.....	29.56
" " Thermometer.....	49.1
Self-registering do. max. 80° min. 26°	
" in the Thames water — 53.5 — 50°	
a From 12 observations daily. b Sun.	

RAIN, in inches, '54: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was nearly 5° below that of the month.

NOTICES TO CORRESPONDENTS.

We are obliged to Medicus for the information with which he has furnished us. A full report of the case was in type before his letter came to hand.

Mr. Emlyn, Guildford.—Owing to an accident, part of our reply was omitted in last week's number. The case referred to by us, at p. 654, was that of Caroline Hatfield, charged with the murder of her infant by administering to it Godfrey's Cordial. The facts stated relative to the open sale of poisons in Kingston, were elicited by the prisoner's counsel in cross examination.

Owing to the great length of the lectures inserted in the present number of the journal, we have been unavoidably compelled to postpone the communications of Dr. Shapter, Dr. Everett, and Mr. T. S. Beck.

Papers have been received from Dr. Davies (Hertford) and Dr. Mackenzie, of Glasgow. These will have early insertion.

We are obliged to Mr. Busk for the communication on Professor Pirogoff's new method of Etherization. It shall appear next week. A short notice of Professor Pirogoff's process was inserted in our last number, page 842.

We beg to acknowledge the receipt of Dr. Wright's pamphlet.

We consider that the Rev. Dr. Emerson has been very ill treated; but the subject does not admit of discussion in the pages of a medical periodical.

We shall probably notice the subject to which Mr. G. M. Davis refers, in our next number.

Dr. G. E. Day.—We are obliged by the offer: an answer will be sent.

Mr. J. T. Roberts's letter next week.

Mr. R. W. Ellis.—It is contrary to our practice to insert lists of prisoners in the body of the journal.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 and 1847,

By BRANSBY B. COOPER, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

LECTURE II.

Of the blood-vessels and absorbents—Arteries—Capillaries—Veins—United functions of these vessels assisted, probably, by nervous system—Pathology of arteries as far as relates to physiology—Hypertrophy—Hæmorrhagic diathesis—Pathology of veins—Phlebitis—Pathology of the capillaries—Pathology of the absorbents—Inflammation—Predisposing causes—Idiosyncrasy—Temperament—Diathesis—Exciting causes—Chemical causes—Cold—Phænomena of inflammation.

GENTLEMEN,—Having given you what I trust may prove sufficient instruction on the subject of the healthy and abnormal conditions of the blood, as connected with the science of surgery, I shall now proceed to describe the vessels which are destined to circulate the blood through the living body.

The arteries.—The arterial distribution of the blood is performed, as has been already told you, for effecting the purposes of the growth, and peculiar nourishment of each individual part of the body; and as the nature of the blood which is distributed through these vessels is in every situation the same, while the constituents of the various tissues are so different, it is a necessary consequence that the arteries should terminate by some peculiar arrangement, so as to possess the vital power of appropriating those constituents only of the blood suited to each tissue; and such an apparatus is found in the capillary system.

The capillaries.—In a physiological point of view the capillary is by far the most important part of the circulatory system, being in fact the seat of all the principal functions, as well as of the phenomena of healthy and diseased action. The coats of the capillaries are so delicate and transparent that they can only be demonstrated with the assistance of a microscope, from the blood they contain, which may be observed to move in a rapid current from the terminating arteries in every direction, though ultimately to terminate in the commencing veins. The capillary vessels are thus placed between the terminations of the arteries and the com-

mencement of the veins, constituting an intermediate delicate net-work through the thin coats of which the constituents of the blood exude. As these vessels are invariably accompanied with absorbents and nerves, it is yet to be ascertained to what proportionable extent the nervous system influences the just appropriation of the blood. As the whole quantity of the blood which is conveyed by the arteries to the capillaries is not consumed, but changed only, both in quantity and quality, another set of vessels is required to convey the remaining portion of the blood back again to the heart, and these vessels constitute the venous system.

The veins are not merely for the purpose of conveying the reflux blood which has been distributed throughout the body for the various purposes of life, but also to receive the products of absorption which are poured into them just before their large terminating trunks enter the right auricle. The contents of these absorbent vessels which are received by the veins in their course towards the heart are of a compound nature; one portion being nutrient and fitted to be converted into blood, while the other portion is effete matter, detrimental to the blood, and requiring, therefore, that it should be submitted to the influence of respiration before the blood can again be sent to the arterial system.

Hence it may be inferred, that the arteries, veins, and absorbents, together probably with the brain and nerves, are all subservient to the function of the capillary system, to which the phenomena of health and disease and the action of therapeutical agents are chiefly referable. You may perhaps, gentlemen, consider these remarks as more suited to lectures on physiology than surgery, but I would ask you how are you to understand the diseased actions of these systems if you do not comprehend their normal conditions, which is best indicated by the natural performance of their several functions.

We will now consider, therefore, some of the diseases of the blood-vessels which interfere with the performance of these important functions, and tend therefore to a diseased state, either in themselves or in the blood which they contain, the capillaries which they supply, or the tissues which should be duly nourished.

PATHOLOGY OF ARTERIES.

I shall now, gentlemen, only speak of the changes of these vessels which tend to interfere with their power of supplying the capillary vessels with nutritious blood, and postpone the surgical part of the subject, as distinguished from the physiological pathology, to a future consideration.

The healthy condition of these arteries is maintained by a capillary system of their

own, the "vasa vasorum" as they are termed; and on the integrity of these vessels the healthy condition of the arteries depends, while any alteration in their appropriating power tends to a morbid change in the coats of the arteries, altering their physical and vital conditions.

Hypertrophy is one of the most frequent changes to which the arteries are liable, but it is not always to be considered a diseased action, as it is found to be inseparable from that natural excitement induced by the necessity of a sudden growth or continued action of any part of the body; hence it is found in certain vessels of the human subject at the age of puberty, during the development of the organs of generation, also during utero-gestation, and in the muscles of a limb which is submitted to any continued peculiar exertion, as may be observed by the increased size of a blacksmith's arm: but the same condition may result from an over action of the heart, from augmented power of assimilation, leading to hyperæmia; or from, what we as surgeons have more to do with, local injury. The hypertrophy resulting from external violence is, there can be little doubt, a very similar condition to the state of vessels under the stimulus of the growth of a part; the former indeed may be considered as a reparative, and the latter as a formative action, but either of them may lead to a diseased condition; if the distension of the vessels be beyond what their natural tonicity can support, they become dilated, and an altered condition, both of the blood-vessels and the blood contained within them, is established, leading to the necessity of medical treatment for their relief.

To demonstrate that hypertrophy of arteries is not always to be considered as a malady, I have, gentlemen, only to draw your attention to this preparation, in which the external iliac artery has been tied, and the circulation of the limb has been carried on, as you may observe, by these hypertrophied collateral branches, which would have been quite unfitted for the office they performed but for their enlargement.

Hæmorrhagic diathesis is by some pathologists considered to depend upon a diseased state of the arteries; but, although it is true that these vessels seem to be both physically and vitally affected, as may be observed by the difference in the appearance of their tunics, and from their indisposition to contract, it has yet to be proved that this is not really an effect, instead of a first cause, induced by a diseased condition of the vasa vasorum. I have known persons the subjects of this disease (which, by the by, is frequently hereditary) bleed nearly to death merely from the drawing of a tooth or some slight incised wound. It is therefore in-

cumbent on a surgeon, whenever he experiences any difficulty in restraining bleeding, especially if from a slight cause, to investigate the constitutional condition of his patient, and to correct the diathesis if it be present.

The coats of arteries are also liable to many kinds of degeneration; but, as they so frequently lead to aneurism, I shall leave the description of these morbid changes until I come to the consideration of that disease.

Pathology of veins.—Veins may, like arteries, become hypertrophied actively when resulting from the dilatation of the arteries under the stimulus of formative excitement, or they become passively dilated from an impeded circulation of the blood through them, constituting varix.

The varicose state of the veins is most frequently seen in the lower extremities, and more so on the left than on the right side. This results generally from a constipated habit of bowels, so that the sigmoid flexure of the colon becomes distended with feces, presses on the left iliac vein, and physically impedes the return of blood from the extremity, so that the veins become abnormally distended, elongated, and tortuous. Pregnant women, and persons who are obliged to maintain a long-continued erect posture, are also liable to this disease. The effects resulting from a protracted varicose condition of the veins will be more fully entered into when speaking of varicose ulcers.

The veins appear to be more liable to inflammation than the arteries. How much more frequently have we occasion to employ the term phlebitis than arteritis.

Inflammation in a vein is generally attended with local pain and some constitutional disturbance; the vein soon becomes as firm as if it contained solid matter, and more or less oedema of the limb follows: The hardness of the vein results from the coagulation of the blood within it, and the coagulation from inflammation of the internal coat of the vein, which becomes thickened, and seems no longer capable of maintaining the fluid condition of the blood. The same, or at any rate a very similar, phenomenon attends inflammation of the internal coat of an artery. This condition having been frequently observed to produce a spontaneous obliteration of veins, surgeons have been induced to apply caustic, ligature, pressure, and other artificial means, for the purpose of curing varicose veins; but as idiopathic tendency, as well as local injury, so frequently lead to the formation and absorption of pus, and to inseparable violent constitutional irritation, I would recommend you, gentlemen, to hesitate before you perform any operation on a varicose vein likely to produce acute inflam-

mation in the vessel. The safest of the artificial means employed I consider to be the application of caustic; but the constitution of the patient should be well considered before even this is adopted.

The veins are less liable to be affected with earthy concretions than the arteries, but they are not unfrequently found to contain malignant growths, possibly conveyed there by absorption.

Pathology of the capillaries.—Placed as these vessels are intermediately, and at the same time continuously, both with the arteries and veins, it may be readily imagined that no alteration can take place in the natural flow of blood through either the arteries or veins which will not interfere with the circulation through the capillaries; and, as in health they regulate the quantity of blood and nutrition distributed to every structure, any deviation from their normal state must be attended with most deleterious effects. If, for instance, there be increased flow of blood from an energetic condition of the arteries, or a retardation in the circulation of the blood through the veins, the capillaries must necessarily be distended with blood, and a state of hypertrophy and hyperæmia in them result. For a time, these vessels may be capable of sustaining this condition without the occurrence of any serious morbid changes, particularly if the tissues which they are destined to supply be ready to receive the superabundant blood, and no other derangement may be produced than a little overgrowth of parts; but, if the exciting cause of this state of hypertrophy be not subdued, whether the fault depends upon the arteries, veins, or capillaries themselves, these latter vessels will soon lose their tonicity: they will be congested and dilated, the blood itself impeded in its course, and effusions of other than the appropriate constituents will be thrown out, and the part may then be said to be inflamed. Serum is the constituent usually exuding through the coats of the capillaries under this condition, which very generally results from venous congestion, as is seen in œdema of the face from pressure on the large veins of the neck, of the upper extremity from pressure on the axillary vein in diseases of the axillary glands, and in ascites from obliteration of the inferior cava. The effusion of coagulable lymph, or fibrin, which frequently takes place from hypertrophied capillaries, may perhaps be attributed to a state similar to that which occurs in the blood during its slow coagulation out of the body, namely, to a subsidence of the red particles, which Mr. Gulliver has proved retards the coagulation of the liquor sanguinis, and perhaps fits it for escape through the tunics of the vessels. If, however, the inflamed state of the capillaries be protracted

beyond the periods described, instead of either serum or lymph being effused, *pus* escapes, the solid particles of which resemble in some measure blood-globules in form, but are nearly twice the size, and are supposed to be exudation globules converted into *pus* by some peculiar vital action.

Pathology of the absorbents.—Changes in the absorbents, similar to those which have been described as taking place in the arteries, veins, and capillaries, have not been observed, although there can be but little doubt that they are as prone as the rest of the circulating system to these abnormal conditions. The absorbent vessels seem to be more particularly affected in cases in which poisons are introduced into the system; for we find after wounds received in dissection, inoculation of syphilitic virus, and after the bites of poisonous animals, that the absorbents are first affected, and the blood and tissues subsequently; a sufficient evidence of the important part the absorbents play in the animal œconomy.

A healthy condition of the *Tissues* also regulates the normal action of all the vessels of the circulatory system as well as of the blood they circulate, the integrity of each being preserved, and mutually dependent upon the integrity of the others. For instance, if the tissues be under an excited state of increased action from any local cause, the expenditure of the fibrin is proportionably increased to supply the demand, as in the healing of wounds.

If their vitality be depressed, or, in other words, they are unfitted to receive their natural supply from the blood, a diminution in the expenditure of fibrin takes place, and the tissues disintegrate, as we see in the formation of ulcers. When their vitality is lost the blood becomes stagnant in the vessels, and the tissues slough.

Inflammation.—Having now given an outline of the healthy state and morbid conditions of the blood, and the vessels which circulate it, as well as of their influence upon the tissues, and their reciprocal dependence on them, I consider, gentlemen, we are now prepared to enter upon the subject of Inflammation, a subject of the utmost importance to the surgeon, being continually the object of his treatment, either from its local or constitutional effects. Every structure in the body furnished with blood-vessels is liable to its influence, but its effects are modified by the peculiarity of the physical arrangements and degree of organization of each tissue, for there can be but little doubt that "surface action" as much modifies elimination from the capillaries, as the peculiar vitality of each part affected with inflammation.

So universal is inflammation, that every disease, it may be said, either begins, ends,

or in some period of its progress is accompanied with it; indeed, it is more or less essential to every restorative process. Such being the effect of this condition of increased action, it often becomes the duty of a surgeon to modify or alleviate its effects by local or constitutional remedies; and yet at the same time it is the great preserver of life and health. Were it not for inflammation at the very commencement of our infant existence, we should only breathe to breathe our last, in consequence of the hæmorrhage resulting from the mechanical separation of infant from mother. Of such importance are its salutary influences to the surgeon, that he needs it to secure the desired results of the slightest operation; without it no wound could heal, no fractured bone unite; by it abscesses are limited in their extent, foreign bodies surrounded and prevented from injuring the parts in which they are embedded, and in ulceration of the bowels it performs the important office of enclosing the orifice in the intestine, and preventing the extravasation of effusions which would speedily cause the death of the patient. But inflammation has yet a further claim upon the consideration of the surgeon; he can command and modify it, and render it an instrument of cure; he employs it in all plastic operations, and even induces it, for the cure of hydrocele, &c.

As inflammation, however, may arise spontaneously, and become formidable from its effects, or may be produced locally from some external agent, the causes of inflammation constitute a very important part of the study of the pathologist, as by removing the cause, inflammation may sometimes be at once cut short. This task, however, is frequently most difficult to accomplish, and more especially to the physician, as the diseases under his especial care are generally internally seated, and the symptoms obscure; while to the surgeon, whose attention is most commonly directed to external derangements, the diagnosis is comparatively easy.

The circumstances inducing inflammatory actions are divided into the *Predisposing* and *Exciting* causes. A very frequent predisposing cause is *Idiosyncrasy*, which, gentlemen, you may perhaps consider as hardly coming within your province as surgeons, but you will find hereafter in practice that it so frequently interferes with the treatment of disease that in ignorance of its influence you would be baffled in all your attempts to relieve your patient. I have known persons, for instance, who, after eating some kinds of shell fish, and even certain vegetables, have been attacked with violent inflammation of the skin, attended with great itching, and considerable constitutional irritation consequent on an attack of urticaria, which, when appreciated, may be easily cured by a judicious

change of diet and a little purgative medicine. I may now caution you against thinking lightly of the assertion of patients that they cannot take any particular kind of medicine in consequence of its producing some particular effects not intended by the prescriber. This is, in fact, idiosyncrasy, and I have known it happen that two grains of calomel administered as a purgative have produced violent salivation: opium, also, instead of procuring rest, will at times in some persons produce delirium.

Temperament has also a great influence both on the action and effects of inflammation, modifying its symptoms, and regulating the treatment to be employed. Persons of a sanguineous temperament, for instance, are more liable to acute inflammation than those of a phlegmatic constitution, as would naturally be presupposed from their greater excitability, but yet experience teaches us that these persons cannot bear the loss of blood to any great extent, for as you diminish their powers you increase their irritability. Narcotics, with sudorifics, are therefore generally indicated in the treatment of inflammation in such constitutions.

Diathesis is another predisposing cause, often producing under its influence a specific inflammation, as gout or rheumatism, when such persons are exposed to any exciting cause which in others would give rise to an attack of inflammation of a common character; but, of all the various diatheses, there is none which claims a greater share of a surgeon's attention than the strumous or scrofulous, not only on account of its great prevalence in this country, but also from the constitutional powers being so changed, that extensive and protracted local inflammation may take place without any other sign of its existence than swelling, unattended either with heat, pain, or redness, so generally concomitant with inflammation; so that you might, gentlemen, mistake the true nature of the case under your treatment, unless fully conversant with this peculiarity of the diathesis in question. The mode of living and habits of your patient are also important desiderata, as they exert a very marked influence as to the predisposition to inflammation, as well as modify its character. You will have plenty of opportunities of observing this fact in the wards of this hospital, and will find how much the treatment of the patient has to be modified by the facts elicited from the inquiry into the previous mode of life. Such persons, for instance, as have been exposed to bad food and clothing, although at the same time accustomed to the constant stimulus of porter and ardent spirits, must be treated in a very different manner under inflammation from those who are just from the country, and have lived regularly, and

been accustomed to pure air. The former will not bear lowering, or you bring on irritative fever: indeed, they generally require porter or wine with opium to allay their peculiar excitement; while the latter must be treated by a strict antiphlogistic plan. You will observe, therefore, that there can be no general rule laid down for the treatment of any disease, whatever may be the name you give it: you must regulate the treatment to be employed for its cure, by examining closely the constitution of your patient, making allowance for peculiar idiosyncrasies, ascertaining the temperament, studying the diathesis, and inquiring into the habits of your patient.

Thus informed, you have only to make choice of the remedies to be employed, which is not, you will find, so difficult a part of your study as you are now most likely disposed to believe. The simplest means to restore secretions and allay irritation will be generally found sufficient for the desired object in surgical cases.

Not only intemperate living, but any cause which tends to impair the healthy balance and tone of the vascular system, must necessarily act as a predisposing cause of inflammation.

The *Exciting* causes of inflammation may be divided into those which act locally or primarily, and those which act constitutionally or secondarily. Under the local or direct causes may be considered the various classes of irritants which produce their effects *mechanically*—as violent blows, wounds, or the intrusion of foreign bodies. Such causes may, however, sometimes produce their effects indirectly: as, for instance, when the absorbents and distant glands become inflamed. Punctured and poisoned wounds principally lead to these distant and indirect effects. A good illustration of the effects of a mechanical cause is the accidental introduction of a grain of sand into the eye: violent inflammation immediately comes on, with a profuse secretion of tears, after which, if they be not successful in washing out the irritating cause, violent inflammation supervenes, attended with great heat, swelling, and pain, symptoms which are only to be relieved by the abstraction of the foreign body. This is no sooner effected than all the symptoms are relieved and quickly removed. There can be no better instance given than the one which I have just described, of the necessity of applying the remedy for the removal of the cause, rather than prescribing for symptoms which cannot be relieved while the exciting cause remains.

Chemical causes produce also violent local inflammation. Acids, escharotics, and perhaps I might add burns and scalds, induce high inflammatory action, to a degree depending upon the strength and continuance

of their application. These effects are attributed to chemical action, but there is some difficulty in ascertaining whether the effects produced depend wholly on chemical action.

In illustration of the *secondary* or *constitutional* effects produced by a local cause, I may allude to the effects resulting from the introduction of *poison* into the system from the bite of a snake, sting of a hornet, wasp, &c.; but whether the constitutional derangement is to be referred to the deterioration of the blood, or to the impression made upon the nervous system, is still a question *subjudice*. I confess I believe it is through the blood, and not the nerves, that the baneful influence of the poison is primarily communicated to the affected animal. Small-pox, glanders, and syphilis, may also be considered as falling under this category of exciting causes which act generally or constitutionally on the system.

Cold, or rather I should say, the reaction following the sudden abstraction of heat, leads frequently to violent inflammation, sometimes producing mortification; such cases require great care in the application of the means to be employed for the restoration of the "frost bitten" part; it should be rubbed with snow, and the patient kept in a cool temperature, as the too sudden exposure to heat is almost certain to induce *aphæcæm* by too rapid and too violent a reaction.

It is useless to dwell longer on the causes of inflammation, as any thing which interferes with the natural functions of a healthy state will be certain to induce more or less of an inflammatory action, either as *constituting disease* or *salutarily restoring* the disturbed equilibrium.

PHENOMENA OF INFLAMMATION.

From these numerous causes arise various phenomena to a greater or less extent inseparable from inflammation, which I shall now proceed to describe. Since the time of Celsus, "*rubor, calor cum tumore, et dolore*" have been considered the signs of inflammatory action—indeed, indicating *inflammation*, and although the first impression may lead you to suppose there is no just distinction to be drawn between the two terms in their common application, I think I can explain to you that there is an important one. For instance, you may find redness, heat, swelling, and pain produced by the hyperæmised state of vessels under the existing influence of formative actions, as observed by John Hunter during the annual growth of the stag's horn, and other similar conditions; but during this process the *effusions* from the hypertrophied capillaries are quite natural, though abundant, and in due proportion to the wants of the tissues to be supplied, unattended with any severity

of symptoms or constitutional disturbance. But upon the accession of inflammation excited by any morbid change in the blood-vessels or tissues, a new set of phenomena result. First may be observed an increased flow of blood through the vessels to the part affected, probably depending in some measure upon an active systole of the heart, and in some degree upon the tonic state of the vessels themselves. The capillaries next become distended, partly from being unequal to appropriate the quantity of the blood sent to them, and partly from the tissues being unfitted to receive the superabundant supply of nutriment, redness, and heat, resulting from this condition. Irregularity in the circulation of the blood through the capillaries next occurs; instead of flowing steadily onward, the blood oscillates, passing on, then retrograding, and again flowing; but in a short time separation of the red from the colourless corpuscles takes place; the larger colourless ones adhere to the inner coat of the vessels, while the red particles are circulating with considerable rapidity in a central channel formed by the peripheral adhesion of the white corpuscles. The blood next becomes stagnant, and its constituents are effused into the surrounding tissues by exosmosis from the vessels, and distension and tumefaction result. The effusions which take place may be serum, liquor sanguinis, some red particles mixed with them, or even pus; depending upon the degree of inflammation, the peculiarity of the constitution affected, and of the tissues inflamed.

The secondary effects produced by these different effusions on the general health of the patient constitutes the grand desideratum of the surgeon to regulate his treatment for their relief; for as there are peculiar symptoms pathognomonic of the deposition of each effusion, although modified by particular constitutional conditions, he is enabled to ascertain whether local or general means are to be employed, or, in other words, whether his patient be labouring under constitutional, or irritative fever. This subject will be more fully treated when speaking of irritation.

NOCTURNAL INCONTINENCE OF URINE.

M. MORAND recommends the extract of belladonna as a valuable remedy for nocturnal incontinence of urine, in those cases of it which seem to be associated with a state of general debility. For children from 4 to 6 years old, he begins with a pill containing gr. $\frac{1}{4}$ of the extract twice a day, increasing the dose to gr. j. in the course of 14 days. He suspends the medicine if symptoms of narcotization come on, but otherwise continues it for two or three months so as to effect a perfect cure.—*Dr. West's Report on Midwifery*, 1845-6.

LECTURES ON NUTRITION, HYPERTROPHY, AND ATROPHY,

Delivered in the Theatre of the Royal College of Surgeons, May 1847.

By JAMES PAGET, ESQ.

Professor of Anatomy and Surgery to the College.

[Reported by WILLIAM S. KIRKES, M.D.]

LECTURE I.

Hypertrophy and atrophy the subject chosen for illustration—Prefatory remarks on the process of nutritive assimilation—the process considered in its several modes of development, growth, and assimilation—difference between these three forms of the formative process—Source of the waste undergone by all parts of the body—mode in which the repair of this waste is effected—proofs that each integral part of the body possesses a definite period of existence—Principal conditions necessary to healthy nutrition—Exact adaptation between the blood and the tissues—power of assimilation in the blood by which this adaptation is maintained—evidence of this adaptation afforded by symmetrical diseases—and by those blood-diseases possessing "seats of election"—other points proved by this class of diseases—Share taken by the several organs in preserving a right condition of the blood for healthy nutrition.

MR. PRESIDENT AND GENTLEMEN,—In the anxiety which I feel while undertaking the responsibility of the duties of Professor of Anatomy and Surgery to this College,—a responsibility commensurate with the dignity which the office has hitherto enjoyed,—it is satisfactory to feel no doubt respecting the subject to be chosen for the lectures. I believe that I owe the honour of being elected this year to the professorship, in great measure, to the circumstance of my having been long engaged in the study of the pathological department of the College-Museum, while arranging and describing it, under the superintendence of Mr. Stanley, for the new catalogue. And I may fairly suppose it to be the wish of the council, that, as the Museum is open to the examination of the members and pupils of the College, and of men of scientific pursuit, so should be the knowledge and the opinions which it has supplied or suggested to those who have had occasion to study it most deeply. For, indeed, to what thus grows out of the study of the Museum, the College

has, in some measure, the right which the proprietor has to the produce of the cultivated soil. And, now that for a long time past, the most learned Hunterian Professor has every year brought in, from every source, so large a store of deep and wide-extending knowledge, of sagacious interpretation, and acute suggestion of the ways of nature, I hardly wonder that some return should be looked for from an inferior labourer in the field.

But, although it was plain that I should make the chief purpose of my lectures the illustration of some portion of the pathological collection, I was embarrassed what best to choose in the multitude of rare and instructive things which it contains,—till I resolved to make no choice at all, and take what first presents itself to the student of the Museum. The subjects, therefore, on which, Mr. President and Gentlemen, I beg your favourable hearing, are those, to the general illustration of which, the first two series of preparations in the Museum are devoted—hypertrophy and atrophy—the simple excess, and the simple deficiency, of nutrition in parts. Let me, however, as preparatory to the consideration of these, first engage your attention on the healthy formative process, or process of nutritive assimilation.

The formative process manifests itself in three modes, which, though they bear different names, and are sometimes described as if they were wholly different things, yet probably are only three expressions of one law operating in different conditions. The three, enumerating them in the order of their time, are development, growth, and assimilation.

By development, we mean the process by which a tissue or organ is first formed; or by which one, being already imperfectly formed, is so changed in shape or composition as to be fitted for a higher function; or, finally, is advanced to the state in which it exists in the most perfect condition of the species.

We must carefully distinguish development from mere increase: it is the acquiring, not of greater bulk, but of new forms and structures, which, by greater powers, are adapted to higher conditions of existence. For example, when, in the child, cartilage is changed to bone, there is not, necessarily, an increase of size; or, if there be, there is something more; there is that change of texture by which it is *developed* into bone. So, when, from the simple cavity of the embryonic digestive system, the stomach, intestines, liver, pancreas, and other organs are produced, these are developed; there is increase, but, at the same time, something more than mere increase of quantity.

And the distinction between develop-

ment and increase, or growth, is shewn in this,—that, sometimes, even in instances in which they usually concur, the one proceeds without the other. I might quote many instances of this. I will choose two or three which illustrate some other striking facts. These brains of two adult idiots [exhibiting specimens] are equally diminutive, and of nearly equal size; but in one, so far as we can see, there is a due proportion of the several parts;—it is only too small. In the other, the parts are not well-proportioned; the posterior parts of the cerebrum do not half cover the cerebellum; indeed, no posterior cerebral lobes appear to be formed. Herein we recognize something more than a checked growth; for this truncation of the cerebrum is due to an arrest of its development, at the time when its hind-lobes—the parts last produced, and peculiarly characteristic of the human brain—were only just beginning to be formed. Our explanation of this most interesting specimen must be, that, when the brain had attained that degree of development which, according to Professor Retzius,* is proper to the human foetus, about the beginning of the fifth month, and corresponds with the completed development of the brain of lower mammalia,—then its development ceased. But though in form it is like the foetal brain in the fifth month, yet, in all its dimensions, it is larger; so that when its development had ceased, its growth must have continued; and this was not checked till the brain had attained the size of the mature foetus. In this brain, therefore, we find at once defective development and defective growth; but in that [pointing to the example first described] the development proceeded, and the growth alone was checked.†

Again, for an example in which development was checked and growth proceeded even beyond its normal limits—this heart, [exhibiting the specimen] from a child of three years old, presents only a single cavity; no partition has been developed between its auricles or its ventricles; it is, in respect of its development, like the heart of a foetus in the second month; but though its development was checked thus early, its growth continued, and it has more than the average bulk of the heart at three years

* Arch. d'Anat. et de Physiol., Janv., 1846.

† The two brains, together with casts of them, which were exhibited, are contained in the Museum of St. Bartholomew's Hospital, and are described in the Physiological Catalogue, Series 23, No. 40 and No. 70. The one in which the posterior cerebral lobes are deficient, weighed in its recent state 13 oz. 2 drachms avoirdupois; the individual from whom it was taken was 23 years of age, and had been an idiot from birth. The other brain (No. 70) was from a female, aged 21, who also was idiotic from birth.

old.* So has this heart,† in which development was arrested at a later period, when the septum of the ventricles was incompletely formed: in the eleven years the patient lived after birth, the development made no further progress, but the growth passed its ordinary bounds.

I will not multiply examples more than by referring to those two striking specimens in the physiological Museum—the skeletons of O'Byrne the giant, and of Madlle. Cracami the dwarf: compare these with the model-skeletons which stand beside them, and, allowing for the age of the dwarf, you will not find in it a defect, nor in the giant's skeleton an excess, of development; the one has not less than all the characteristic human forms, the other has no more; but the one is defective, the other is excessive, in its bulk; the growth has been erroneous in both.

It is, then, by the change to a higher state of form or composition, that development differs from growth,—the second mode of the formative process. For in mere growth no change of form or composition occurs; parts only increase in weight, and, usually, in size. In growth there is an addition of quantity, but no improvement in the quality of a part; the power of the growing part increases with the growth, but is, after all, only more of the same power; as, in the attainment of manhood, the heart of the boy, having all its necessary parts, and all well formed, acquires perfection by acquiring greater bulk, and, therewith, greater power.

Lastly, in the formative process, as it is normally manifested in the adult,—i. e., in ordinary assimilation, parts only maintain their *status*. No perceptible change of size or weight ensues; no change of form or composition; there is exact stability. But this stability is maintained through continual changing of the particles; the change consisting in the regular formation of new parts in the place of those which are impaired, or die, in the ordinary course of life. Now for the elucidation of this mutation of parts—in the perfecting of which the formative process is continually occupied in the healthy adult body,—let me speak.

1st. Of the sources of that impairment, or, if I may so say, that wear and tear, to which every part of the body appears to be subject.

2dly, Of the conditions necessary for the

healthy state of the formative process by which the wear and tear is repaired.

3dly, Of the formative process itself.

First, then, the deterioration of the body may be traced to two principal sources, namely, the wearing out of parts by exercise; and the natural deterioration or death of every part or organ, independent of the decay or death of the whole body, after a certain period of existence.*

The first of these, the wearing out of parts by exercise, is admitted as a fact beyond question: and probably no tissue or part can be supposed to enjoy an immunity from this source of waste. For, although in all the passive apparatus of the body—the joints, bones, ligaments, elastic vessels, and the like—much of the beauty of their construction consists in the means applied to diminish the effects of the friction, and the various pressures and stretchings to which they are subject, yet, in enduring these at all, they must be impaired, and, in the course of years, must need removal. Doubtless, however, their waste by exercise is much less than that of the more active organs—the muscles, and perhaps the nervous system.

For, with regard to the muscles, it is growing more and more probable that the origin of their contractile force is in some decomposition of their substance, and it is certain that such decomposition attends their continued action; for their action is always followed by the increased discharge of urea, carbonic acid, and water; and, as the late researches of Helmholtz† show, they themselves, after long-repeated contractions, are found changed in chemical composition.

We have nearly similar evidence of the impairment of the nervous system by prolonged exertion of its power. We have, indeed, no proof that the simple conduction of an impression through a nervous cord can affect in any way its composition or its structure; but the abundance of alkaline phosphates discharged with the urine after great mental exertion, show that the various acts of the mind impair the brain through which they are manifested. And to this point tend, also, the researches of Dr. Beanes Jones‡, who has shown that the excretion by the kidneys of a large quantity of phosphates is a frequent result of inflammatory action in the brain. To this conclusion also, that mental exercise, whether percep-

* The merits of having first maintained in terms nearly similar to the above, and as more than an hypothesis, that "each part of the organism has an individual life of its own," and "a limited period of existence," belongs to Dr. Carpenter. (See his *Principles of Human Physiology*, 3d edit. page 623.)

† *Müller's Archiv*. 1845. hefte 1, 2.

‡ Report of paper read before the Med. Chir. Soc. 21 Jan. 1847. *Med. Gaz.* vol. xxxix. p. 262.

* The above specimen is contained in the Museum of St. Bartholomew's Hospital, Physiological Division, Series 23, No. 33. The pulmonary artery is contracted and has no valves; the mitral valves are so absent; the ductus arteriosus is open.

† Exhibited from the Museum of the College of Surgeons; Malformations, No. 127.

tive or active, impairs the structure of the brain, we are led by our knowledge of the nature of the Mind; for to the principle, the immaterial thing, we cannot ascribe a weariness; it cannot be obnoxious to waste or to decay: mental fatigue, as we vaguely call it, is only what the Mind feels of an impaired state of the brain, and the recovery from what we call a weary mind is the restoration, not of the Mind itself, but of the organs which connect it with the external world, and in which, during tranquil sleep, the reparative nutrition goes on undisturbed.

But, whether active or passive, it is probable that no part of the body is exempt from the second source of impairment—that, namely, which consists in the natural death or deterioration of the parts (independent of the death or decay of the whole body) after a certain period of their life. It may be proved, partly by demonstration, and partly by analogy, that every integral part of the body is formed for a certain natural period of existence in the ordinary conditions of active life, at the end of which period, if not previously destroyed by outward force or exercise, it degenerates and is absorbed, or dies and is cast out; needing, in either case, to be replaced for the maintenance of health.

The simplest examples that I can adduce of this are in the hair and teeth; and I beg you to observe that in the process which I shall describe we seem to have an image in which are plainly marked—though, as it were, in rough outline—all the great features of the process of nutrition.

An eyelash which naturally falls, or which can be drawn out without pain, is one that has lived its natural time, and has died, and been separated from the living parts. In its bulb such an one will be found very different from those that are still living in any period of their age. In the early period of the growth of a dark eyelash, we find its outer end almost uniformly dark, marked only with darker short linear streaks, and exhibiting no distinction of cortical and medullary substance. Not far from its end, however, this distinction is plainly marked; dark as the cortical part may be, the medullary appears like an interior cylinder of much darker granular substance: and in a young hair this condition is continued down to its deepest part, where it enlarges to form the bulb. Now this enlargement, which is of nearly cup-like form, appears to depend on the accumulation of nucleated cells, whose nuclei, according to their position, either by narrowing and elongation, are to form the fibrous substance of the outer part of the growing and further protruding shaft, or are to be transformed into the granular matter of the medullary portion. At this time of most active growth, all the cells and

nuclei contain abundant pigment-matter, and the whole bulb looks nearly black. The sources of the material out of which the cells form themselves are, at least, two; the inner surface of the sheath, or capsule, which dips into the skin, enveloping the hair, and the surface of a vascular pulp, which fits in a conical cavity in the bottom of the hair-bulb.

Such is the state of parts so long as the growing hair is all dark. But as it approaches the end of its existence, it seems to give token of advancing age, by becoming grey. Instead of the almost sudden enlargement at its bulb, the hair only swells a little, and then tapers nearly to a point; the conical cavity in its base is contracted, and hardly demonstrable, and the cells produced on the inner surface of the capsule contain no particle of pigment. Still, for some time it continues thus to live and grow, and we find that the vigour of the pulp lasts rather longer than that of the sheath or capsule, for it continues to produce pigment-matter for the medullary substance of the hair for some time after the cortical substance has been entirely white. Thus, we can trace the column of dark medullary substance growing paler and more slender, and perhaps interrupted, down to the point of the conical pulp, which, though smaller, is still distinct, because of the pigment-cells covering its surface.

At length the pulp can be no longer discerned, and uncoloured cells alone are produced, and maintain the latest growth of the hair. With these it appears to grow yet some further distance, for we see traces of the elongation of their nuclei into fibres in lines running from the inner surface of the capsule inwards, and along the surface of the hair; and we can always observe that the column of dark medullary substance ceases at some distance above the lower end of the contracted hair-bulb.

The end of all is the complete closure of the conical cavity in which the hair-pulp was lodged, the cessation of the production of new cells from the inner surface of the capsule, and the consequent detachment of the hair as a dead part, which now falls by the first accident—falls, sometimes, quite bare and smooth on the whole surface of its white bulb, but sometimes brings with it a layer of cells detached from the inner surface of the capsule.

Such is the life of a hair, and such its death; which death, you see, is natural, spontaneous, independent of exercise, or of any mechanical external force—the natural termination of a certain period of life. Yet, before it dies, it makes provision for its successor, for when its growth is failing you often find, just below the base of the old hair, a dark spot, the germ or young pulp

of the new one covered with cells containing pigment, and often connected by a series of pigment-cells with the old pulp or capsule. And this appears to be the product, as it were an offshoot, from some portion of the capsule of the old hair; for though it may sometimes appear only in the form of a conical pulp, yet more often, I think, it shows signs of connection with the capsule, and the cone is only more evident than the rest because of its covering of dark cells.

I believe that we may assume an intimate analogy between the process of successive life and death, and life communicated to a successor, which is here shewn, and that which is believed to constitute the ordinary nutrition of a part. It may be objected, indeed, that the death and casting out of the hair cannot be imitated in internal parts; but, we are not without an example in which the assumed absorption of the worn-out internal particle is also exactly imitated in larger organs at the end of their appointed period of life. I adduce the instance of the deciduous or milk-teeth.

We trace each of these developed from its germ, and, in the course of its own development, separating a portion of itself to be the germ of its successor: then, each, having attained its due perfection, retains for a time its perfect state, and still lives, though it does not grow. But at length, coincidently, not consequently, as the new tooth comes, the deciduous tooth dies; or rather, its crown dies, and is cast out like the dead hair, while its fang, with the bony sheathing, and the vascular and nervous pulp, degenerates, and is absorbed. It is here especially to be observed, that the degeneration is accompanied by some spontaneous decomposition of the fang, for it could not be absorbed unless it was first so changed as to be soluble. And it is degeneration, not death, which precedes its removal; for when a tooth-fang really dies, as that of the second tooth does in old age, then it is not absorbed, but is cast out entire, as a dead part.

Such, or nearly such, it seems almost certain, is the process of assimilation everywhere: these may be taken as types of what occurs in other parts, for these are parts of complex organic structure and composition, and the teeth-pulps, which are absorbed as well as the fangs, are very vascular and sensitive; and, therefore, we may be nearly sure, are subject to only the same laws as prevail in all equally organized parts.

Nor are these the only instances that might be adduced. We see the like development, persistence for a time in the perfect state, death, and discharge, in all the varieties of cuticles, with which, also, we may connect the example of the gland-cells; and in the epidermis we have, as in the teeth, an evidence of decomposition of the old cells,

in the fact of the very different influence which acetic acid and potash exercise on them and on the younger cells, making these transparent, but leaving the old ones scarcely changed.

These things, then, seem to shew that the ordinary course of each complete elementary organ in the body, after the attainment of its perfect state by development and growth, is, to remain in that state for a time; then, independently of the death or decay of the whole body, and, at least in a great measure, independently of its own exercise, or exposure to external violence, to die or to degenerate; and then, being cast out or absorbed, to make way for its successor.

It appears, moreover, that the length of life which each part is to enjoy is fixed and determinate, though of course, in some degree, subject to accidents which may shorten its existence, as sickness may prevent death through mere old age; and subject to the expenditure of life in the exercise of parts. I do not mean that we can assign, as it is popularly supposed we can, the time that all our parts will last; nor is it at all likely that all parts are made to last a certain and equal time, and then all need to be changed. The bones, for instance, when once completely formed, must last longer than the muscles and other softer tissues. But, when we see that the life of certain parts is of determined length, whether they be used or not, we may assume, from analogy, the same of nearly all.

Now, the deciduous human teeth have an appointed duration of life: not, indeed, exactly the same in all persons, yet, on the whole, fixed and determinate. So have the deciduous teeth of all other animals, even, we may be sure, to those which, row after row, follow each other in regular succession, in the sharks.

So, again, in all those numerous instances of moulting, of shedding of the antlers, of the entire desquamation of the serpents, and of the change of plumage in birds, and of the hair in mammalia,—what means all this, but that these organs have their severally appointed times, degenerate, die, are cast away, and in due time are replaced by others, which, in their turn, are to be developed to perfection, to live their life in the mature state, and, in their turn, to be cast off.

The force of the evidence I have adduced is increased by the consideration of the exact analogy—almost the identity—of the processes of secretion and nutrition; for in no instance is the fact of this determinate life of the individual parts more clearly shewn than in the gland-cells, by which periodical secretions are elaborated; and, for the connecting link between their office

and the nutrition of the most highly organised parts, as well as a manifest instance of determinate length of life and natural death. I may adduce the ova. These attain their maturity in fixed successive periods of days: they are separated (as some of the materials of several other secretions are) while yet living, and with a marvellous capacity of development, if only they be impregnated during the few days of life that remain to them after separation; but, if these days pass, and impregnation is not effected, they die, and are cast out, as impotent as the merest epithelium cell.

Now from these cases it is not by a far-fetched analogy that we assume the like mortality in all other tissues; and that these are the principal sources of impairment and of change for the worse, which every part of the body has within itself, even in the most perfect state, and in the conditions most favourable to life. And I may anticipate a future subject of consideration, by saying that the application of these truths is of some importance in practical pathology, inasmuch as the results of this degeneration of parts at the close of their natural term of life may be mingled with the effects of all the morbid processes by which the natural assimilation of a part is hindered or perverted: hence the long-continuing or permanent loss of power in a part—say a muscle—which has been disused, or, better, which has been the seat of inflammation. This loss is not due to a primary change in the fibre; for, as Mr. Hunter has explained in one of his far-sighted sentences quoted in the Catalogue, when a muscle or a nerve is inflamed, the inflammatory deposit is not in the fibres, but in the cellular tissue between and among them.* The loss of power, which abides after the inflammation, is mainly because the inflammatory process and the organisation of the newly effused morbid material exclude the ordinary process of nutrition, and the muscular fibres, which in the ordinary course of life degenerate, are not replaced, or are imperfectly repaired. To this same degeneration, too, we may perhaps ascribe the quantity of fat which is found in nearly all inflamed parts.

But of the results of these natural and unrepaired degenerations of tissues I shall speak hereafter. Now permit me to consider the conditions under which the repair of parts thus deteriorated is effected; for it is against the effects of these natural deteriorations that the process of nutrition in the adult is chiefly directed; and it appears to

be by the disturbance or removal of certain necessary conditions, more often than by any suspension or perversion of itself, that error is engendered in the process of nutrition, and so disease is produced. And, in speaking of these conditions of healthy nutrition, I shall take leave occasionally to diverge, even very far, into the consideration of certain points of interest in the general physiology of the process.

Doubtless the conditions necessary to healthy nutrition are very many: but the chief of them are these four:—

1. A right state and composition of the blood or other nutritive material.
2. A regular and not far distant supply of such blood.
3. (At least in most cases) a certain influence of the nervous system.
4. A natural state of the part to be nourished.

And, first, of the right state of the blood, I may observe that I use the expression "right state" rather than "purity," because, if the latter be used, it seems to imply that there is some standard of composition to which all blood might be referred, and the attainment of which is essential to health; whereas the truth rather seems to be, that from birth onwards the blood and tissues of each creature are adapted to one another, and to the necessary external circumstances of life, and that the maintenance of health depends on the maintenance and continual readjustment of the peculiarities on which this exact adaptation depends.

The necessity for this right or appropriate state of the blood as a condition of healthy nutrition, involves of course the necessity for the due performance of the blood-making and blood-purifying functions—healthy digestion, healthy respiration, healthy excretion. Any one of these being disturbed, the formative process in a part or in the whole body may be faulty, for want of the appropriate material. But, important as these are, we must not let the consideration of them lead us to forget that there is something in the blood itself which is at least as essential to the maintenance of its healthy state as these are, and which is, indeed, often occupied in correcting the errors to which these more than itself are subject—I mean the power of assimilation, which the blood possesses in and for itself, as perfectly and at least as independently as any of the tissues. By this it is, that notwithstanding the diversity of materials put into the blood, and the diversity of conditions in which the functions ministering to its formation are discharged, yet the blood throughout life retains in each person certain characters as peculiar as those outer features of the man, for the continual renewal of which it provides appropriate materials. And by this

* The quotation referred to above is taken from the Hunterian MS., and is inserted in the 1st vol. of the Pathological Catalogue of the College Museum, p. 44. The morbid specimens which this quotation illustrates will be found described at page 43.

assimilative power of the blood it is that the tissues are continually guarded; for by it many noxious substances introduced into the blood are changed and made harmless before they come to the tissues; nor can any substance introduced from without produce disease in an organ, unless it be such an one as can escape the assimilative and excretory power of the blood itself.

However, notwithstanding its possession of this power, the blood is subject to most various diseases, in consequence of which the nutrition of one or more tissues is disordered. The researches of modern chemistry have detected some of these changes—finding excesses or deficiencies of some of the chief constituents of the blood, and detecting in it some of the materials introduced from without. But a far greater number of the morbid conditions of the blood consist in changes from the discovery of which the acutest chemistry seems yet far distant, and for the illustration and discussion of which we cannot adopt the facts, though we may adopt the language and the analogies, of chemistry. For, as I shall now chiefly endeavour to illustrate, the healthy process of nutrition depends on so nice a refinement of affinities—such an exact and constant adjustment of the adaptation between the blood and tissues—as we can only discern when we see the consequences of its loss.

I know no instances so well adapted to prove this as the examples of symmetrical diseases. I have here numerous specimens, and here, through the kindness of my friend Dr. William Budd, many sketches of other specimens. The uniform character of them all is, that a certain morbid change of structure on one side of the body is repeated in the exactly corresponding part on the other side. In this lion's pelvis, for example, multiform as the pattern is in which the new bone, the product of some disease comparable with a human rheumatism, is deposited—a pattern more complex and irregular than the spots upon a map—there is not one spot or line on one side which is not represented, as exactly as it would be in a mirror, on the other. The imitation is accomplished with daguerreotype exactness. And so with all the rest.

[Other specimens were shown, which displayed symmetrical syphilitic ulceration of the skull,—symmetrical necrosis of the jaw,—symmetrical ulceration of articular cartilage and fibrous tissue,—and many other affections. The diagrams displayed examples of equal symmetry in psoriasis, ichthyosis, eczema, lepra, paralysis from lead, &c.]

But I need not detain you with examples; they are so common that every day's practice will supply one or more in which

this symmetry of disease is displayed with more or less exactness.

Now, to apply these facts as evidences of the refinement of the affinities which operate in the formative process. Excluding, perhaps, the cases of congenital symmetrical defects, and a few which seem to depend on morbid influence of the nervous system, it may be stated generally that all symmetrical diseases depend on some morbid material in the blood. You may find the proofs of this position in papers written simultaneously by Dr. William Budd and myself in the 25th volume of the *Medico-Chirurgical Transactions*; and in Dr. Budd's essay you may find it nearly demonstrated, by a masterly discussion of the subject, that in most of these cases the morbid material enters into combination with the tissue which is diseased, or with the organised product of the morbid process. Now the evident truth in all these cases is, that the morbid substance in the blood, whether the mercurial compound, or the organic compound peculiar to rheumatism, or the poison of syphilis, or, be it what it may, this substance acts upon and changes only certain portions of what we might otherwise suppose to be all the very same tissue. Such a substance fastens on certain islands on the surface of a bone, or of the skin, and leaves the rest unscathed: and these portions are the exactly corresponding pieces upon opposite sides of the body. The conclusion is unavoidable, that these are the only two pieces that are exactly alike; there was less affinity between the morbid material and the osseous tissue, or the skin, or the cartilage, close by, else it would also have been similarly diseased. But, manifestly, when two substances display different degrees of affinity for a third, their composition cannot be identical; so that though we may speak of all bone and all skin as if it were all alike, yet there are differences; and in all the body the only parts which are exactly like each other are those which are symmetrically placed upon the opposite sides.

No power of artificial chemistry can, indeed, tell the difference; but a morbid material can: it tests out the parts to which it has the greatest affinity, unites with these, and passes by the rest. I say no power of artificial chemistry can detect the difference; perhaps I should have said no power of imagination can conceive either the nature of the difference or the perfection of that adjustment with which, amid all the varieties of healthy life, the blood is maintained in perfect adaptation to these differences, and supplies to every part its appropriate material*.

* The following was added in a recapitulation of this portion of the lecture. "In what these

I might magnify the wonder of this truth by showing how exceedingly small must be the quantity of the morbid material existing in the blood in some of these cases. But I prefer to illustrate a fact which singularly corroborates the evidence, afforded by symmetrical diseases, of the refinement of the operations of organic affinities. The fact is that of certain diseases,—and I think these are nearly all blood-diseases,—having “seats of election.” For example, in these two lions’ pelvis [exhibiting the specimens] not only is the morbid product on each exactly symmetrical, but its arrangement is almost exactly alike in both: hardly a spot appears on one which is not imitated on the other. So in these rheumatic tibiae and these syphilitic skulls. These, however, are only examples of a large class of cases commonly observed, of which the general character is that the disease is much more likely to affect one certain portion of a bone, or of the skin, or of some other tissue, than to attack any other portion: we are all in the habit of using the fact as an aid in diagnosis. But we may have overlooked the bearing of such a fact on the physiology of nutrition. It proves, on the one hand, as the cases of symmetrical diseases do, that the composition of the several portions of what we call the same tissue is not absolutely identical: if it were so, these diseases would as often affect one part of a bone or other tissue as another part, or would affect all parts alike. And it proves, on the other hand, a constant similarity, even an identity, of the morbid material on which each of these diseases depends, though it be produced in different individuals; so that we may venture to predict, that whenever chemistry shall discover the composition of these substances, it will be found as constant and as definite as the composition of those inorganic substances which the science has most successfully scrutinised.

In short, these symmetrical diseases with seats of election, prove,—

differences consist I do not pretend to explain. Some of them may not even be permanent, but may depend on the several parts of a bone, or of the skin, or of a limb (for example), being in different stages of development or degeneration. The symmetrical parts of the tissue being, in this respect, exactly alike, may be simultaneously and equally affected by the disease, while other parts of the same remain unaffected till, in the course of time, they attain by development or degeneration, the very same condition as the parts first affected. Then, if the morbid material still exist in the blood, these parts also become diseased: and so in succession may nearly the whole of a tissue. This view agrees very well with the fact that these symmetrical diseases spread, and so give evidence that a part which in one week or month is not susceptible of the influence of the morbid material may, in the next, become as susceptible as that which was first affected.”

1st. That in the same person the only parts of any tissue which are identical in composition are, or may be, those which occupy symmetrical positions on the opposite sides of the body.

2dly. That in different individuals, the portions of the body which are identical, or most nearly so, in composition, are those in exactly corresponding positions.

3dly. That even in different individuals the specific morbid materials on which most of the diseases of the blood depend, are generally of identical composition.

But I must not forget to add (what Dr. William Budd has proved, and illustrated by some of his diagrams) that these diseases often show that, next to the parts which are symmetrically placed, none are so nearly identical in composition as those which are analogous; as, for examples, the backs of the hands and of the feet, which are here shown, not only symmetrically, but exactly similarly affected with psoriasis: and the corresponding parts of the thighs and arms, in this case of ichthyosis*. The same is shown in this specimen of fatty and earthy deposits in the arteries, from Mr. Liston’s museum, in which exact similarity is shown in the plan, though not in the degree, with which the disease affects severally the humeral and femoral, the radial and peroneal, the ulnar and posterior tibial, arteries.

It would be foreign to my purpose to enter now upon all the subjects of interest which are illustrated by these causes. I may refer you again to the papers already mentioned, especially to Dr. Budd’s. For the present it will be sufficient if I have proved (without pretending to explain or describe) the perfect and most minute exactness of the adaptation which, in health, exists between the blood and all the tissues; and that certain inconceivably slight disturbances of this adaptation may be sources of disease. If this be proved, I shall not fear to be met with an objection against too great refinement in what I shall next say concerning some of the means by which that right state of the blood, which is appropriate to the healthy nutrition of all the parts, is attained and preserved.

Before such an audience as this it would be useless and unbecoming to repeat the current truths of the physiology of the blood, or of the processes which serve its subordination to its development and renewal. These I may assume to be well known by nearly all who hear me; and I must endeavour to elucidate such points as appear wholly, or too nearly, neglected.

In this view I beg your attention to a source of change (it may be in one case for

* Diagrams illustrating the above were exhibited.

the better, in another for the worse) in the constitution of the blood, which is of much interest, and may be hereafter made of much importance in both physiology and pathology.

The germ of what I shall endeavour to develop is in the writings of Treviranus. His sentence is, that "each single part of the body, in respect of its nutrition, stands to the whole body in the relation of an excreted substance*." In other words, every part of the body, by taking from the blood the peculiar substances which it needs for its own nutrition, does thereby act as an excretory organ, inasmuch as it removes from the blood that which, if retained in it, would be injurious to the nutrition of the rest of the body. Thus, he says, the poly-piferous zoophytes all excrete large quantities of calcareous and siliceous earths. In those which have no stony skeleton these earths are absolutely and utterly excreted; but in those in which they form the skeleton, they are, though retained within the body, yet as truly excreted from the blood and all the other parts, as if they had been thrown out and washed away. So the phosphates which are deposited in our bones are as effectually excreted from the blood and the other tissues, as those which are discharged with the urine.

But Treviranus seems not to have apprehended the full importance of the principle which he thus clearly, though so briefly, stated; for it admits, I think, of far extension and very interesting application.

The influence of the principle may be considered in a large class of outward-growing tissues. The hair, in its constant growth, serves, over and above its local purposes, for the advantage of the whole body, in that, as it grows, it removes from the blood the bisulphide of protein and other constituents of its substance, which are thus excreted from the body. Now this excretion-office appears, in some instances, to be the only one by which the hair serves the purpose of the individual; as, for example, in the foetus. Thus, in the foetus of the seal, and, I believe, of most other mammals, removed as they are from all those conditions against which hair protects, a perfect coat of hair is formed within the uterus, and very shortly after birth is shed, and replaced by another coat of wholly different colour, the growth of which had begun within the uterus. Surely, in these cases, it is only as an excretion, or chiefly as such, that this first growth of hair serves to the advantage of the individual. The *lanugo* of the human foetus is an homologous production, and must, I think, similarly serve in its economy

by removing from the blood, as so much excreted matter, the materials of which it is composed.

Now, if this be reasonable, we may carry this principle to the apprehension of the true import of the hair which exists in a kind of rudimental state on the general surface of our bodies, and to that of many other permanently rudimental organs, such as the mammary glands of the male, and others. For these rudimental organs certainly do not serve, in a lower degree, the same purposes as are served by the homologous parts which are completely developed in other species, or in the other sex. To say they are useless, is contrary to all we know of the absolute perfection and all-pervading purpose of Creation; to say they exist merely for the sake of conformity with a general type of structure, is surely unphilosophical, for the law of the unity of organic types is, in larger instances, not observed, except when its observance contributes to the advantage of the individual. No; all these rudimental organs must, as they grow, be as excretions, serving a definite purpose in the economy by removing their appropriate materials from the blood, and leaving it fitter for the nutrition of other parts, or adjusting the balance which might else be disturbed by the formation of some other part. Thus they minister to the self-interest of the individual, while, as if for the sake of wonder, beauty, and perfect order, they are conformed with the great law of the unity of organic types, and concur with the universal plan observed in the construction of organic beings.

NOTES OF
A CLINICAL LECTURE,
DELIVERED

By CÆSAR HAWKINS, Esq.

At St. George's Hospital, May 3rd, 1847.

Taken by Mr. WALTER THOMSON.

1. *Aneurism by anastomosis of the lower lip.*
2. *Chronic inflammation of the testis.*

GENTLEMEN,—I proceed at once, without any preliminary remarks, to make a few comments upon some cases pointed out to me by my clerk, Mr. Biagden, as containing some points likely to be both interesting and instructive to you. And I will first of all make a few observations upon a disease of by no means frequent occurrence, and a very good example of which you have lately had under your notice in a woman who is going out of the hospital to-morrow—I al-

* Die Erschein. und Gesetze des organischen Lebens, 1st Band. p. 401.

lude to that form of tumor called "aneurism by anastomosis," with which affection a patient was admitted under my care on the 12th of April, named

Lucy Anders, æt. 57, in Drummond Ward. Our notes for that day tell us that there is "a tumor about the size of a large pea, situated on the lower lip at the right side, about a quarter of an inch from the commissure; it is on the edge of the lip, and does not project into the mouth. The coronary arteries are of large size, particularly the right one, which, with one or two below it from the chin, lead to the tumor; the tumor is also formed by a congeries of small vessels; the whole of it pulsates, and can be nearly emptied by pressure. The pulsation is checked by compressing the facial artery as it crosses the body of the inferior maxilla. It is of a livid red colour, and diseased vessels pass between it and a smaller spot which exists near it. It began six years ago as a black spot about the size of a pin's head, which she picked with a needle, but probably the needle did not penetrate its substance, as there was little or no hæmorrhage; she afterwards accidentally rubbed it, twelve months ago, with a towel, and there was profuse bleeding from it; it has gradually increased." In this case you have a disease to which the term "aneurism by anastomosis" has been applied, differing somewhat in its nature from ordinary nævus; which latter is a tumor consisting of many enlarged capillary vessels, with a small quantity of cellular tissue between them, and with a degenerated condition of the coats of the capillary arteries, so that they possess no contractile power, and are exceedingly liable to bleed upon the least injury. With this affection you are all familiar, especially with that form of nævus which occurs in children, in whom it is frequent, being most commonly congenital—though it sometimes commences at a later period. Such a congeries of capillary vessels is sometimes mixed with numbers of small cells not communicating with the blood-vessels; and these occasionally increase to a considerable size, as in a case you may remember my curing last year by puncturing and inflaming the cysts. But in adults it is rare, and from the pulsation in the tumor of our patient we must look for something more.

The point in which the affection we are considering differs from ordinary nævus is, that there is added to the morbid structure found in the latter disease an increased pulsation, and an enlargement in the adjoining arteries; which additions alter materially the nature of the tumor, and modify the means necessary for its removal; for it is of no use to make punctures by setons or vaccination, or endeavour to set up inflam-

mation as you might do for the cure of an ordinary nævus,—nor does pressure cure them. But besides this disease, which is a pulsating nævus in fact, there has been included under the name of aneurism by anastomosis another disease, consisting of a varicose condition of an artery, beginning in one spot, first affecting the artery there, and then progressing until the vessels around it for some distance have become dilated, varicose, and softened, and the coats have lost their contractile power, being in structure little different from cellular tissue. Combined with this there is often a varicose condition of the vein, but without any tumor of the capillary vessels. I will confine my remarks, however, to the "pulsating nævus," rather than to the "varicose artery." This varicose condition of the arteries is never congenital, and arises, most commonly, from a blow or other injury in adults. The pulsating form of nævus is also seldom seen except in adults, but a common nævus, existing from childhood in a quiet state, is found at some future time to have the adjoining arteries enlarged, and thus to give a pulsation to the tumor and cause it to increase in bulk, while other nævi remain for life without this addition. Both forms of disease are almost invariably formed among the branches of the external carotid artery—in the face, or head, or neck, or in the tongue and orbit; and both of them may cause pain, headache, and disturbance of the general health, and both of them are liable to bleed furiously and dangerously, to the amount of quarts at a time, when the tumors ulcerate from disease or injury; even this small one, though growing very slowly, is described as having bled largely.

Observe next, that the pulsation in the tumor was checked by compressing the facial artery. It is singular that as long as the diseased part remains, no tendency to cure is generally manifested, although the principal artery going to it may have been tied. The plan has been tried with both large and small arteries, and, as an instance of the want of success with which it has been attended, I will recite a case published by Dr. Mussey, of Philadelphia, although, being an American operation, (a country where many very wonderful cases occur,) you must make allowance for a little of the Munchausen style of exaggeration, though doubtless the main facts are correct. In this case, a young man, in whom a nævus, existing from birth, began to have arterial pulsation from enlarged vessels after puberty, Dr. Mussey first tied the common carotid artery of one side, and finding that this produced but little effect upon the tumor, he tied, twelve days afterwards, the corresponding artery of the other side, leaving only the vertebral arteries

to carry on the circulation through the brain. Notwithstanding all this, the pulsation in the tumor remained the same, although you are aware of the little communication the vertebral arteries have with the external parts. Afterwards, he proceeds to tell us, cutting carefully round the circumference of the tumor, a small piece at a time, he tied forty large arteries, the temporal being in diameter no less than $\frac{3}{4}$ of an inch, and then dissected the tumor off from the pericranium, exposing a surface of twenty-five square inches; i. e., the diameter of the tumor was about five or six inches. By these means he was enabled to remove it with success! Such a failure, however, shows you how little you can rely upon such an operation; and in fact, though it has occasionally succeeded in the orbit, it has almost always failed to arrest the growth of the tumor when growing elsewhere. But as a preliminary to excision, the arteries going to the tumor may be tied with great advantage when the tumor is very large. In one case, Dr. Gibson tied the occipital and temporal arteries supplying the tumor, and then endeavoured to remove the tumor, first cutting a small portion of the surrounding structure and tying the arteries, which bled so much that he was obliged to desist, and twelve days afterwards he insulated a further portion, and ultimately, in a fortnight more, dissected off the tumor, leaving a wound, which afterwards granulated and healed. There are some situations where the method of operating by tying the artery is to be attempted; as when the tumor is situated in the orbit, cases having occurred in which a cure has followed the operation of tying the common carotid artery of the same side; or when it is situated at the angle of the jaw, where the proximity of many large vessels and nerves would make the operation by excision both difficult and dangerous. In such cases as these you may tie the principal artery first; it may possibly succeed; if it do not, it will, at all events, facilitate any operation which may be afterwards undertaken.

In our patient no means of this nature could be adopted,—for there were several arteries running to the tumor, and consequently its removal was the only available proceeding. Our choice lay between two methods of removing it,—viz., that by the ligature, and that by excision; I chose the former, as the least hazardous, whenever practicable, on account of hæmorrhage, and, as our notes tell us, on the 15th “a double ligature was passed through the entire thickness of the lip, to the left of the tumor, from without inwards, thus causing a loop to appear on the inner surface of the lip; the right-hand thread of the loop was then passed doubled through the lip on the other

side of the tumor, thus forming another loop. By cutting these loops three ligatures were formed, and by tying the end threads across the free margin of the lip, and the middle one so as to include the base of the tumor, the diseased part was entirely cut off from all vascular connection with the surrounding structure.” The ultimate effect of the operation performed will be to leave a semilunar cicatrix, similar to that which results from the removal of a portion of the lip by the scissors, when it is affected with cancerous disease.

On the same day our notes remark:—“Sickness came on two or three times, the patient having been placed under the influence of ether at the time of the operation.” From the nature of the case interfering with the process of inhalation, the vapour was not administered to the same extent as in other operations; but the ill effects which resulted from even this limited use of it, and perhaps greater than we have seen in any other case,—effects extending, as our notes inform us, over a space of eight days (for it was not till then that she said she no longer tasted the ether), and consisting at first of headache, nausea, and giddiness,—show that it is a remedy not to be used on every trivial occasion, any more than you would employ a large dose of opium: for I consider it is not worth while to encounter these ill effects for the sake of removing a trifling degree of pain. In great operations, and in operations upon children, who bear it much better than adults, and whose crying and struggling are not pleasant additions to the cares of an operation, the æthereal vapour becomes a valuable adjunct. Not only does it in these cases remove the pain of the operation itself, but it takes away the effect of anticipation beforehand, and of nervous shock at the time, both of which are considerable, and soothes the system for some time. You have seen the ether administered in cases of strangulated hernia; but in these cases, from the great prostration which it produces, I do not think its use often advisable: neither do I in the removal of tumors from the neck, on account of the venous congestion likely to be induced; nor, for the same reason, and the chance of involuntary struggling, in cases where much delicate dissection may be necessary in any part of the body, nor if any illness exist likely to be attended with serious influence upon the brain, heart, or lungs. But in almost all operations, no one attending this hospital can doubt the very great value of this invention.

On the 17th, we read that “ulceration has commenced around the base of the tumor;” on the 20th, that “the tumor is hard and dry, of a black colour, with no

pulsation in it." In a large tumor a second tying is often necessary, in order to prevent blood being carried by any vessels contained in the centre of the mass included in the ligature. I have seen a large nævus, or cancerous tumor, become black and dry, and the cutis dead upon the surface, and in the course of a few days the tumor has regained its vitality, because the loosening of the ligature by the ulceration of the circumference has allowed that vessel, situated in the centre of the base, to be no longer sufficiently compressed to prevent the blood flowing through them again.

In our patient the ulcerative process took place slowly; for it is not until the 25th, *i. e.* ten days after the operation, that our notes tell us, "The slough came away this morning, leaving a depressed but healthy ulcer an inch and a quarter long. No bleeding occurred. The vessels of the lip pulsate nearly to the same degree as before the operation."

On the 28th the report is, "Ulcer healing at the edges."

On the 30th — "Cicatrizing rapidly. Distinct vessels can be observed in the granulations at the centre of the ulcer."

You will do well to bear this in mind, since an appearance of this sort may lead you to suspect that a portion of the diseased structure still remains, and with a view of destroying it you may apply caustic to a granulating surface, which would have healed more rapidly without any interference. These granulations of nævi are very large and prominent, and firm, and look exactly as if with so many vessels in them the disease must return, but yet they heal readily.

In our case the ulcer was left to itself, and the report for to-day, May 4th, is:—"Ulcer almost cicatrized." In fact, she is going out to-morrow; and when the thickening from the inflammation, and consequent deposit of lymph, has subsided, she will have a very useful and well-formed lip, and its flexibility will of course be greater than at present, after the hardness has subsided.

We were fortunate in having no hæmorrhage, and in having arrived at apparently so perfect a cure. I say apparently, for the disease may yet return, and for that reason I have requested her to show herself at the hospital before she leaves town.

As the affection is a rare one, I will read to you another case, from which you may learn the difficulties you are likely to meet with, and the means you must employ to remedy them, — the case being attended with some risk and trouble, perhaps from the greater vascularity of the parts in a child.

Anne Cripps, æt. 6, was admitted under

my care, on October 22d, 1834, with a congenital tumor, occupying the same situation as in the last patient. There had been copious and repeated bleeding from the tumor, described as having been to the extent of a pint on three successive days. On the 30th, ligatures were tied round the tumor in the same manner as in Anders; and on Nov. 5th, the slough separated, removing, our notes tell us, the whole of the diseased part. On Nov. 7th there was a little bleeding from the ulcer, and on the 8th still more. On both these occasions the hæmorrhage was stopped by the application of nitric acid.

On the 9th the report is:—"The edge of the lip is more swollen and darker coloured, the margins of the ulcer everted, the surface broad, and bleeding from the slightest touch,—looking only like a common unhealthy ulcer.—Tinct. Benzoin. C. ulceri."

On the 11th, "Slight hæmorrhage continues, chiefly from two points, one of which is the mouth of a good-sized artery, and the blood spurts forth in jets. Surface of sore large, and has numerous unhealthy-pointed granulations. — Blue lint ordered to be applied, with pressure, twice daily."

Hæmorrhage occurred on two or three subsequent occasions, but in small quantity; and on Dec. 31st, the notes are:—"The margin of lip on right side has nearly recovered its natural appearance, and is without pulsation, although the skin is a little darker coloured than it should be. The cicatrix is somewhat contracted. To be discharged cured." So far the case did well. But a month after her discharge Cripps came again to the hospital with a return of the disease in the right angle of the cicatrix. There was increased pulsation in the right, but not in the left coronary artery.

On February 12th, 1835, I removed with a sharp bistoury a triangular portion of the lip, including the diseased part. I preferred doing this to again using the ligature, as I thought I should by it be able to make a better formed lip. There was, as I expected, a good deal of hæmorrhage, but the edges being brought together with sutures, it ceased without my having to tie any vessel.

On the 15th, "All the sutures have come away. There is slight ulceration about the place of the one which separated last; the rest of the wound has healed by first intention."

On the 19th, "slight ulceration to the outside of the wound."

On the 20th, "some hæmorrhage; said to be from the mouth, but probably from the ulcerated surface. The patient's crying caused an artery in the centre of the sore to

bled with a jet.—Strong nitric acid applied with a pointed stick, which stopped the bleeding.”

On the 22d, “no more bleeding.—Acid reapplied.”

On 26th, “sore healing; no hæmorrhage; no undue pulsation of coronary artery.”

March 7th, “sore quite healed; and there is very little deformity left.”

This case shows you how troublesome some of these tumors may prove, and the two together indicate that the operation for extirpating the tumor by the ligature is the one best adapted to the disease; although we may sometimes effect a cure by tying the principal artery going to the tumor, when we have sufficient power of cutting off the supply of blood, or when its size or situation forbid removal.

The next disease which I will bring before you will be interesting to you, not from its rarity, as the last was, but, on the contrary, from the frequency with which you will meet with it in practice,—the ease with which it may be cured if properly and steadily treated,—and the length of time during which it may continue if the proper means are not used for its relief. I allude to chronic inflammation, or, as it has been called, “tubercular inflammation” of the testicle,—an example of which, after the disease has gone on to ulceration, you have in a man named James Miller, who was admitted under my care on April 7th. Our notes for that date tell us that “two years ago the testicle swelled, with little pain at the time, and that seven months since an opening formed, through which some seminal fluid escaped. The scrotum has since ulcerated to above the size of a shilling, and a portion of the tubuli seminiferi, with yellow deposit between them, has protruded. Four years ago he had syphilis, followed by secondary eruptions and sore throat. He has been treated with mercury. General health is, he says, pretty good. The ulcer is attended with no pain.”

By chronic inflammation is meant an inflammation, not of the cellular structure of the testicle, but of the mucous membrane lining the tubuli seminiferi. You are well acquainted with inflammation of this tract of mucous membrane when it is of an acute nature, as when it arises from an extension of the inflammation of gonorrhœa, proceeding along the vas deferens, globus minor, globus major, and so into the body of the testicle. But in the acute form no yellow matter is deposited in these tubes, in which circumstance it differs materially from the chronic disease, to which the yellow deposit gives its peculiar nature. The yellow matter is deposited in the seminal tubes themselves,

and collecting, gives rise to dilatations in them, often of large size. These may be distinctly seen by making a section of a testicle so affected, and washing away the deposit. This matter often ruptures the tubes, and is effused into the cellular tissue enclosing them. That excellent surgeon, Sir Astley Cooper, whose work upon diseases of the testis is in many points the best you can consult, speaks of “the cellular membrane of the part being loaded with a yellow fibrine, or coagulable lymph:” but I believe that a very great portion of the deposit found in the cellular structure escapes after the tubuli have burst. The yellow matter may be formed in very great quantity, as in this preparation, and may yet be removed by absorption without any of it being discharged by an external opening. In some cases, after ulceration of the scrotum has taken place, the deposit pushes out before it a portion of the tubuli, and this is one circumstance which forbids the removal of the protruded part.

You will find it stated in Sir A. Cooper’s work, that the most common cause of the disease is an affection of the urethra. I do not think it is so, though it does occasionally produce it: for instance, a medical friend consulted me who had an enlarged prostate, and in him this disease of the testis was brought on in consequence. It is not common, however: at all events, you must not attempt to cure the disease, as Mr. Ramsden and others have proposed, by passing bougies to remove imaginary strictures, or even real ones which had no hand in forming it. In fact, in the majority of cases it occurs without any connection whatever with the urethra. Patients liable to this affection are generally of a cachectic habit, indicated by a small irritable pulse, and sallow countenance; they are weak, and are very liable to derangement of the digestive organs, evidenced by a loaded state of the tongue. However, there is nothing definite, and patients with these symptoms will often tell you that they enjoy very good health.

In such patients the disease frequently arises without any assignable cause. It is not the same form as that which arises in persons of the scrofulous diathesis. The yellow substance is different in its nature from the cheesy matter of scrofula; the latter is an unhealthy form of lymph, the former is a peculiar secretion.

The pressure of this substance causes the tunica albuginea to ulcerate; the scrotum is afterwards perforated, and the disease puts on the appearance you saw in the patient upstairs.

In its earlier stage this chronic inflammation is not unlike the enlargement which takes place when the testicle is affected with fungus hæmatodes; and formerly many tes-

ticles were removed which, by judicious treatment, might have been saved, and I have seen it done myself. Mr. Rose, who preceded me in office at this hospital, was consulted in a case well illustrating this. An officer had had one testicle removed; the other enlarged considerably, and was about to be removed also, when, naturally anxious concerning the result, he requested to have the opinions of some other surgeons with regard to it. It was decided that remedial measures should be tried. The consequence was, that the testis gradually retained its healthy size, and the surgeon was saved from doing an irreparable injury to his patient. In the early stage of chronic inflammation, then, the uniform hardness, and the distinction between the body of the testis and the epididymis, are greater than they are in fungus hæmatodes, because in the latter disease the swelling not often affecting either of these bodies, the distinction between them is not so apparent, the malignant tumor being only bound up within the tunica albuginea with the testicle, which is often spread out and elongated over it. As the disease advances, the inflamed testicle presents irregularities upon the surface, and if matter forms a second stage is produced, which presents greater similarity to the malignant affection, some parts in either case being softer than the rest; and some cases may arise where you will be somewhat at a loss to distinguish between them. When the case has attained a considerable size you can have no difficulty, as in a man from whom you have recently seen me remove a very large testicle. Both testes are not unfrequently affected at once, or one after the other, in chronic inflammation, which is very seldom the case in medullary tumors; the man from whom I removed these two testes *after death* came under my care with considerable enlargement of the testis of both sides, besides which he had ascites and a morbid enlargement in the situation of the liver, with much falling away, and a very sallow complexion, like that of a person labouring under cancerous disease; mercury being given him, however, for his large liver, the tumors nearly disappeared, as you may perceive in the testes, and the disease of the liver proved to be of a common form. But in an earlier stage, should you be in doubt you must give your patient the chance of recovery by appropriate treatment, and if this prove unsuccessful you may safely proceed to operation, having taken care that mercury is not given to any injurious extent, and having waited till its effects have in great measure gone off.

A resemblance is also given, in the latter stage of the chronic inflammation, when the fungus of the chronic enlargement—red and

prominent, and of great size, perhaps—looks like the fungus of medullary disease; but a very little examination shows the difference between the soft bleeding fungus of the latter, and the granulations and projecting tubuli of the former cases. You may observe that there is a history of syphilis connected with this case; but there is no account which would lead us to suppose that the affection of the testicle was here dependent upon any syphilitic taint. When that is the case, the gland becomes affected at the same time with the appearance of secondary eruptions and sore throat. No difference, however, need be made in the treatment, as remedies which cure one are proper for the other, the disease being essentially the same in the syphilitic as in the idiopathic form. It is curious to observe the tendency which exists in the minds of most medical men to theorise, although our profession is principally one of observation. In speaking of venereal inflammation, Sir Astley Cooper says "that he supposes that it begins in the tunica albuginea from its analogy with periosteum and other fibrous textures, which are affected in syphilis;" in reality, however, the disease begins in the mucous surface, I believe, whether the swelling arise from a blow, or from syphilis, or without any known cause.

The scrofulous inflammation is most common in children, as you would expect, since the cellular tissue, which is the common seat of scrofulous inflammation, is most abundant in young subjects, and it forms in one or sometimes in two parts, a cheesy substance being deposited, and sometimes going on to suppuration, of just the same character as if the strumous action were in the cellular tissue of the arm or leg; and, moreover, the treatment necessary for the chronic inflammation is actually injurious in the scrofulous disease. But the disease I am now describing most frequently occurs in adults (when the vessels which secrete the semen are most active), because it is in the secreting structure of the gland that the deposit takes place: and it would appear that excess may give rise to this disease. There are few affections which you may treat with such success; and I will now enumerate the remedies you are to employ. The horizontal posture, with proper support for the testis, is to be strictly observed, so as to prevent the undue congestion produced by the weight of the column of blood in the spermatic veins. Mercury is to be given, so as to keep up a gentle action on the gums. You will find calomel and opium the most effectual form of administration. I have given the blue pill to a patient with but little effect; and, upon changing it to the calomel and opium, I have quickly succeeded in effecting a cure. In many cases some tonic,

of which sarsaparilla is on the whole the best, is also required, sometimes at the commencement, if the patient looks weak and out of health; in other cases after mercury has been given for two or three weeks. You may in some instances find the bichloride of mercury given with the sarsaparilla or bark a better form of administration than the others. The mercury is to be given so as gently to affect the gums, but without any salivation; and in a few cases, when scrofula or some other circumstance prevents the mercury from being borne well, some iodide of potassium will do good, but you cannot generally rely upon it. This was the treatment you saw used for Miller. On the 9th our notes tell us the following prescription was ordered:—"R Hydrarg. Chloridi, gr. iss.; Pulv. Opii, gr. ʒ. o. n. s., and an ointment of the red precipitate of mercury to the ulcer." On the 16th—"Ulcer quite clean and healthy; mouth slightly affected: Capiat Pil. o. alt. noct.; Haust. Cinchonae, ʒiss.; Conf. Aromatici, ʒss. bis die sumend; slight pressure to be applied to the testicle." On the 24th—"Ulcer granulating healthily, and the surrounding skin is uniting to the testicle; there is no prominence of the tubuli, and the testicle is rapidly regaining its natural size." On May 3d the report is—"The testicle is now no larger than natural, the ulcer is healing, and the granulations are small and healthy." Perstat cum pilulis.

So that the case has progressed as favourably as could be wished. And with such treatment as this almost any case may be cured, the time, however, varying according to the power of the constitution to bear the mercury, but about five or six weeks will be the usual period for which it must be continued. Sir A. Cooper recommends the use of leeches twice a week to the testis, but they appear to me to be quite unnecessary. Cases, notwithstanding, may occur in which the treatment, although the chief remedies are the same, is not always so simple. I will read to you the notes of two other cases which you have lately seen, in order to point out to you the appropriate treatment in some other circumstances.

James Nutt was admitted under my care on Dec. 16th, 1846. About fourteen months before his admission the left testicle swelled, and continued to increase for three months, when the scrotum became much distended, and an abscess formed, and burst. He then, for the first time, put himself under treatment. A portion of the contents of the swelling protruded, and was removed by the knife. After this he neglected to take any medicines for three months, during which time a poultice only was applied. A further portion was then shaved off; there was consequently only a small part of the testicle remaining, and that was decreasing rapidly.

The right testis began to enlarge about seven months before he entered the hospital, and, at the time he came under our notice, was about eight inches in length, firm, and red on the surface, with fluid in the upper and lower part of the tunica vaginalis, the central portion being adherent.

In the left testicle you will observe the protruding tubuli has been removed; consequently, between the knife and the absorbing process, very little of the structure of the gland remained. Both testes were affected. The left testicle will serve as an illustration of another point in the treatment. You saw that no other local application was used in Miller's case than red precipitate. Nitrate of silver lotion is also a good application. You need not shave off the fungus, as was done in this case; you cannot know whether all the tubuli are diseased, and some may remain capable of performing their healthy function which the excision would have removed. Nor need you, as was recommended many years ago, cut off the protrusion, and, bringing the edges of the scrotum together, endeavour to get union by the first intention. You will generally fail, and run the additional risk of having matter confined by union of the skin without union below. I was amused lately by seeing this practice running the round of the journals as an improvement recently introduced in Edinburgh by Mr. Syme; whereas you may see it in Sir Astley Cooper's work on the Diseases of the Testis, which has been so long in every body's hands.

Very large fungous projections will be absorbed without any cutting, and in the same time which the disease would otherwise require to be cured. On one occasion a gentleman who was attending my lectures brought to me at the conclusion of one of them a friend who had one of the largest swellings of this kind which I ever saw. The testis was not less than ten or eleven inches long, and about four broad, and the fungus was probably three inches in length, and an inch and a half high. The patient had consulted a surgeon two years before, who told him the swelling was a hydrocele, and advised his waiting for some time before operation; and he did wait, till it had attained the size I have mentioned. Yet, in about six or seven weeks, the fungus was absorbed, the part healed, and the testis nearly of its natural size, by rest, and mercury and sarsaparilla.

Nutt was put under very nearly the same treatment as you have seen used for Miller, and with the same success. Sarsaparilla, however, was substituted for the bark, as I did not think his constitution would bear the latter medicine. His case also presents another point for consideration: there was a collection of fluid in the tunica vaginalis.

This is not an uncommon complication, and it is not necessary that any specific treatment should be adopted for its removal: it is generally absorbed as the testicle reverts to its natural condition. If it should not be, you may treat it some time *afterwards* with advantage; but to inject the hydrocele at the time would be sure to reproduce the inflammation of the testis. In our patient I punctured the swelling at the upper part, but it was because the skin over it was red and inflamed, and I thought it possible that matter might be forming.

Another patient lately under your notice in the same ward, but whose case I am prevented from reading to you for want of time, had numerous abscesses in the testis, in addition to the fungous protrusion. Sinuses are apt to form in this way, and are difficult to heal, because the secretion of the testis finding its way into them keeps up a perpetual irritation. If a sinus completely pierces the body of the gland, as sometimes occurs, you may pass a seton through it for a few days, which, by producing inflammation and effusion of lymph, may perhaps effect a cure. This you saw done in Stewart with much advantage. You saw in him also that inflammation took place in the tunica vaginalis, which led me to puncture it with a grooved needle, to evacuate the fluid, which seemed to be only serum. In three or four days more, however, I was obliged to open the tunica again, because mixed with the serum was some pus, an abscess in the testis having burst into it; and in such a case a larger opening is often necessary, because it is difficult to find in the distended bag whereabouts the orifice communicating with the testis is situated. In this man it seemed nearly closed when he left the hospital, though some sinuses remained in each testis.

If a sinus remain unhealed, in the generality of cases you need not remove the testicle, as used to be done. I have known one or two sinuses to continue for upwards of fourteen years, occasioning only a trifling degree of inconvenience, in a gentleman, both of whose testes were much enlarged. Once only have I been obliged to perform an operation on this account, and that was in a patient in whom numerous abscesses formed in the cellular tissue of the abdomen and the under part of the thigh; and, he requesting to have the testicle removed, I gave my consent, as the disease was wearing him out by the anxiety and suffering it induced.

I was consulted not long since by a medical man who had been advised to submit to the removal of the testis, but it was not impossible that some tubes might remain healthy; and, even if the use of the testis is altogether lost, I do not see why a painful operation, not altogether without risk, should

be performed, and particularly when, as in this case, both glands were partly affected. I therefore recommended very small doses of mercury, as he was afraid of phthisis, with sarsaparilla and iodide of potassium; and under these remedies the tumors were nearly reduced to the proper size, and the sinuses nearly healed, when I saw him last.

Original Communications.

ON THE RECENT OCCURRENCE OF SCURVY IN EXETER AND THE NEIGHBOURHOOD.

By THOMAS SHAPTER, M.D.

Physician to the Exeter Dispensary; the St. Thomas's Hospital, near Exeter, for Lunatics, &c. &c.

DURING the last fifty years the occasional appearance of scurvy in prisons, and more rarely in the British navy, has from time to time excited deep attention, but of its occurrence as a disorder of the people little has been heard. It has so happened that very many cases have, within the last three months, come under my observation; and as the accompanying circumstances of the recurrence of this now rare disease are not devoid of interest, some brief record of them may be worthy of a passing notice.

Before I fully appreciated the presence of this disease, my attention had been arrested by the many cases seeking relief at the City Dispensary, looking pale and sallow, and complaining for the most part of debility, faintness, and pains in the loins and limbs,—a class of symptoms I was at first inclined mainly to attribute to the effects of a long continuance of cold weather, depressing the powers of life and inducing cold rheumatism in persons not enjoying, from pressure of the times, so full a diet as usual. The occurrence, however, of an undoubted case of scurvy of some severity excited more particular observation, and a visit I was shortly afterwards desired to make to one of the Union Houses of the county confirmed my opinion as to the true nature of these cases. In some, as will shortly be shown, the characteristic symptoms of scurvy were displayed in an aggravated form; while in others, though accompanied

by much weakness and distress, they were but slightly developed. I shall only briefly allude to the general nature of the symptoms which have marked these cases, dwelling a little more particularly on those accompanying the first ingress of the disease, as the spongy and swollen gum appears to me to have been erroneously estimated as amongst the primary and most obvious manifestations of scurvy. From what has recently passed beneath my observation I am inclined to say there is a class of well-marked symptoms preceding this peculiar indication of the disease, and that the scurvy gum is rather to be regarded as an evidence of confirmed and advanced disorder.

The first or initiatory stage, and which may continue for a considerable period, has appeared to me to be characterized by the general and usual indications of debility, with the addition of some few special symptoms;—there is complaint of the ordinary feelings of weakness, of listlessness, and a disinclination to exertion; the patient is nervous, has some little oppression of the breathing, with a feeling of faintness; is chilly; complains of slight and superficial pains of the limbs, and more decided uneasiness across the loins; the countenance is pale and sallow, the lips are pale, and the gums *pale and contracted*; the tongue is clean, moist, and pale; the appetite good; the bowels regular; the urine rather scanty, opaque, and feebly acid; the pulse small, soft, and not quicker than is natural.

In the second stage the general feeling of debility is more confirmed; the nervousness is of a subdued character, and partakes of despondency; the respiration is slightly accelerated, heaving, and somewhat oppressed, and attacks of faintness occasionally supervene; the countenance becomes opaque and dusky, with a dejected expression; the general pains of the body are increased and deeper seated, and the pains of the loins are particularly dwelt upon; there is now the livid, swollen, spongy-looking, but really hard gum, having a tendency to bleed; the breath has a peculiar foetid smell, not altogether unlike the odor of a mercurial taint; petechial spots appear on the legs and arms, and the *surface generally is easily bruised*; the

pulse is small, feeble, and slightly accelerated; occasionally a disposition to feverish attacks is evinced, but these, if judiciously attended to, are easily controlled; in some cases the joints feel stiff, and are really enlarged, and painful nodes form rapidly on the clavicle, sternum, and tibia.

In the third and last stage (of which I have only seen one case), the breathing was slow, sighing, and very oppressed; a sanious discharge (very different from the sputum of a pneumonia,) was coughed from the lungs; the gums were swollen and painful; the breath very foetid; and there was general evidence of the fluids of the body being disorganised in the appearance of petechiæ and tendency to bleeding from the gums and mucous surfaces of the vagina and rectum. Some hours previously to the close of life, an inability to articulate the desired words, followed by an overwhelming stupor, induced the conclusion that serous effusion on the membranes of the brain had taken place.

Such have been the general and more striking symptoms which the cases of this disease have presented to my notice, occasionally modified, however, by complications with other and pre-existing disorders. A few cases illustrative of the above shall now be shortly enumerated.

Scurvy in the advanced stage, mucous surfaces exuding blood: coma, death.

CASE I.—A. B., æt. 45, wife of a respectable farmer, naturally of a strong and healthy constitution, cheerful, and of active habits, had for the past six weeks been ailing, but not sufficiently so to induce her to seek for medical aid until about a week previously to my seeing her. The disease had then fully developed itself: there were petechiæ; the gums were spongy, swollen, and exuding blood; the mucous discharges from the vagina and bowels partook of the same character; the pulse was slow, small, and weak; she was desponding and shrinking within herself, and, when roused, uncertain in her speech; the pains of surface were general and somewhat severe, and she was indisposed from this cause, as well as from excessive prostration of strength, to be moved in her bed; in fact, every thing

indicated that the powers of life were subsiding. She died three days afterwards. The diet of this female presented no other alteration from usual custom than the absence of potatoes and other vegetables, having, with this exception, chiefly consisted of the fare enjoyed by persons in her station of life.

Scurvy with petechiæ and the spongy gum.

CASE II.—M. S., female, æt. 36, stout, countenance naturally florid, but now a look of sallowness, has been ailing upwards of a month; feels generally weak, is listless, and indisposed to exertion; complains much of pains across the loins; breath fœtid, short; feels faint occasionally; pulse small; petechiæ on both legs; appetite good; tongue clean; bowels regular; gums spongy and red. Has lived chiefly on bread, but of this has had sufficient.

CASE III.—E. R., female, æt. 18, very much out of health; countenance sallow and opake, with tendency to a yellowish jaundiced tint; general pains of limbs, severe pain across the loins; swelling of the mammary glands, which are very painful; breath short; very much disposed to faintness; pulse small and quick; petechiæ; gums swollen, red, and spongy. Diet, chiefly bread.

CASE IV.—T. P., male, æt. 28, plumber; stout, active, and in full work; has been ailing for upwards of two months: countenance pale; complains of general pains, more especially across the loins, general stiffness of the lower limbs, and swelling of the knee; pulse small and quick; left leg much covered with petechiæ; appetite good; tongue clean; bowels regular; gums very much swollen, irregular, and spongy, generally red, but along the edges a line of the well-marked lead tinge. Diet has been ample, consisting of bread, meat, beer, &c., but no potatoes.

Cases of scurvy with spongy gums, but unaccompanied with petechiæ.

CASE V.—A. C., æt. 50, nurse: feels weak; complains much of general pains, especially in the knee-joints, one of which is stiff and swollen; breath short; pulse small and quick; gums swollen, red, and encroaching

much between the teeth. Diet, bread and tea.

CASE VI.—J. M., female, æt. 36: countenance opake; feels very weak; complains of general pains of the limbs; breath very short; throbbings at the heart; gums spongy, red, and painful. Diet, chiefly bread.

CASE VII.—S. B., female, æt. 43: pains of right arm; breathing much oppressed; has fainted three or four times a day lately; gums red and swollen, spongy, and slightly exuding blood. Diet, bread and tea.

CASE VIII.—A. M., female, æt. 38; looks ill; countenance opake; complains of general want of strength; is listless, and incapable of exertion; general swellings and pains of the limbs; breath short, and feels very faint on the slightest exertion; pulse weak and small; gums spongy, and exuding blood. Diet has been ample, but devoid of potatoes and vegetables.

CASE IX.—S. B., æt. 33: countenance very sallow; complains much of weakness and stiffness of the legs; indisposed to exertion; pains in the loins very severe; breath very short, and has fainted away occasionally; pulse quick, and generally disposed to be feverish; gums white at the lower part, at the edges swollen and red; Diet, chiefly bread.

CASE X.—S. L., male, æt. 32: naturally robust; countenance expressive of debility; complains of his joints being stiff, and there is a swelling of the elbow; the gums are white and contracted below, but red and spongy at their edges. Diet has been ample of bread, meat, and beer.

CASE XI.—L. C., female, æt. 36: generally weak; pain of loins; breath short; has fainted; gnawing pain of the stomach; mouth stiff and swollen; gums swollen, red, and tendency to bleed at their edges. Diet, chiefly bread.

Cases of scurvy with pale contracted gum passing into the spongy, swollen, red gum.

CASE XII.—E. C., male, æt. 17, tailor: countenance pallid and opake, complains of want of strength and inability to exertion; limbs feel stiff, and fail him; has pain of stomach and across the loins; breathing difficult; tendency to faint; pulse soft, slow, and weak; has been feverish; gums generally white and contracted, but

swollen, spongy, and red at the edges. Diet, ample, but deficient in potatoes and vegetables.

CASE XIII.—M. H., female, æt. 45. Looks ill and weak; countenance opaque; excessive pain across the loins; limbs weak; gums white and contracted, but spongy at the edges. Diet, chiefly bread, and deficient in quantity.

CASE XIV.—E. H., female, æt. 44. Weak; pains in loins; gums white and swollen; subsequently became red and spongy. Diet, chiefly bread.

CASE XV.—A. B., female, æt. 28. General pains, especially about the loins; jaundiced skin; gums for the most part white and contracted, but red and spongy at the edges. Diet, ample, but devoid of vegetables.

Many similar cases might be added to the above, which have been selected as illustrating the general character of the disease in its several stages as now occurring. I shall merely, in continuation, refer to some cases which fell beneath my observation in the Crediton Union Workhouse. In March last, and for some short time previously, much debility and sickness had prevailed amongst the inmates. The sallow countenance and pale anæmic gum could be discovered both amongst the males and females, whilst in many of the latter the gum assumed the decided spongy, swollen, red character; in some this was combined with the pale contracted gum, and in others with the swollen white gum. The worst cases occurred chiefly amongst those of naturally weak constitutions; and as a fact worthy of note, it may be mentioned that the most severely affected were children born with a venereal taint. These cases need not be particularly dwelt upon, as they merely presented symptoms similar to those already enumerated: but some brief inquiry into the attendant circumstances may be useful, as, from their position, these are more certain and defined than in other cases.

The general construction of the house, the size of the rooms, the temperature and ventilation therein maintained, seemed to me in all respects most unexceptionable; the clothing was warm and sufficient. The printed dietary, which is as follows, is the same as that of every Union workhouse in the kingdom.

The weekly amount of food allowed, according to the dietary, to each.

	MAN.	WOMAN.
Bread	102 ozs.	85 oz.
Cooked meat . . .	12 ozs.	12 oz.
Soup	3 pints	3 pints
Broth	4½ pints	4½ pints
Cheese	8 ozs.	8 oz.
Potatoes, &c. . . .	4½ lbs.	4½ lbs.
Suet or rice pudding	14 ozs.	14 oz.
Milk Gruel	10½ pints	8 pints

From the failure of the potato crops, there has been substituted for this vegetable during the past year, with the exception of July and August last, when potatoes were used, the same weight of boiled rice, with the occasional use in the soup of fresh vegetables, as cabb'ges, carrots, parsnips, turnips, &c. From this it will be seen that the general diet of the Union has been ample and well selected; and I can myself testify to the good quality of the several materials used.*

CASE OF ABSCESS IN THE LIVER,

WITH REMARKS.

By W. J. EVERETT, M.D.E.,
M.R.C.S.L., &c.

HAVING not long since met with a case strikingly similar, in many respects, to that related by Dr. Fuller in your number of April 2d, p. 581, you will perhaps consider the subject to which it has reference sufficiently important to permit me to request its insertion in your pages.

The patient was an unmarried female, aged 38, who had been suffering for a few weeks before I saw her from symptoms of abdominal inflammation, which had been judiciously treated by a highly intelligent practitioner; but though she appeared in many respects better, she experienced occasional relapses, and did not make satisfactory progress towards convalescence.

On examination, there were tumefaction and considerable tenderness in the right iliac region, extending across the abdomen, and she suffered from occasional pain in this part; the bowels were irregular and irritable, there was

* The concluding portion of this paper will be given in our next number.

a slight fever, the appetite was bad, the digestion painful, and she complained much of weakness: in about a week from this time, during which she seemed to improve, she was seized with severe rigors, which occurred daily with periodical regularity. The most careful investigation failed to detect any *direct* evidence of suppurative disease; there were no signs of purulent effusion, either circumscribed or diffused, into the abdominal cavity; no fulness or tenderness of the right hypochondrium, no pain of the shoulder, no jaundice or discolouration of the skin, and no vomiting. Auscultation discovered nothing abnormal in the thoracic organs; there was no affection of the cerebral functions, and but little headache; less indeed than would usually attend the same amount of general disturbance. Under these circumstances, the treatment could, of course, only be guided by the general indications, and it is rather singular, as will appear in the sequel, that the rigors ceased under the administration of quinine: with this exception she underwent no material change but that of getting gradually weaker, till about three weeks after their first occurrence: she then, two days before her death, had pain of the head and slight delirium, and on the day following violent convulsions, which terminated in coma, and the latter continued till she died on the succeeding day.

It was stated that her health was habitually delicate, but, for some time before her fatal illness, had been better than usual; she had formerly been subject to severe headaches, but these had ceased for many years, and her chief ailments, subsequently, appear to have been occasional slight attacks of gastric disturbance.

On examination after death there was a trifling amount of serous effusion into the peritoneal cavity, and a few slight and easily lacerable adhesions connected the caput cœcum with the abdominal parietes. This intestine, and those portions of the colon and ileum immediately adjoining it, were somewhat thickened, preternaturally vascular, and there was a small number of minute ulcerations on their mucous surface: the other parts of the tube exhibited no deviation from their natural appearance: the liver, externally, pre-

sented nothing unusual either as to size or structure, but, on being cut into, a copious discharge of pus took place from an incision in the uppermost part of its convexity,* and was found to proceed from an abscess in this direction containing from one to two pints of this fluid: no other morbid appearance was discovered in the abdomen.

The thoracic organs were free from disease: in the head there were numerous patches of puriform lymph beneath the arachnoid, both on the hemispheres and at the base of the brain, and the substance of the brain was studded, in every part, with deposits of pus, varying in size from a mere point to that of a chestnut: the cerebral substance surrounding these differed much in structure and appearance, being in some parts natural, in others softened, and, around some of the larger collections, in the state termed "*ramollissement rouge*:" a few of the cavities were lined with a membranous substance similar to that of the sub-arachnoid effusions.

In considering the appearances above detailed, the first question which suggests itself is, what were the connection and sequence of the morbid phenomena which they presented? The succession, as indicated by the symptoms during life, was, first, intestinal disease of the form to which the term "*tupho-enteritis*" has been applied, and characterized by its appropriate symptoms; secondly, suppurations of the liver, marked by the accession of rigors; and thirdly, purulent effusion into the brain, indicated by the supervention of cerebral disturbance: it is certainly possible that such extensive secondary disease might have existed before its effects were manifested, but highly improbable that it could have done so for any lengthened period, and it is therefore to be presumed that the conclusion deducible from the symptoms is correct. Another point which they offer for consideration is the nature of the morbid process by which these secondary suppurations are produced, and whether these are to be regarded as necessarily

* The situation of the abscess will, to a certain extent, account for the absence of local symptoms, and the same circumstance will perhaps in some degree explain the fact of its not apparently interfering with the biliary functions.

arising from the absorption of pus, or if they may not sometimes be attributed to sympathetic inflammations characterized by the rapid formation of morbid products so often observed in scrofulous subjects. The question is one rather of pathological interest than of practical importance, but I would just observe that the present case appears to favour the latter view of the subject, as the suppurative disease (ulceration) in the primary affection was so extremely slight that it is very difficult to conceive that an amount of purulent absorption capable of producing any effect whatever could have resulted from it. It is somewhat curious that both in Dr. Fuller's case and the present the first occurrence of rigors took place after periods of apparent amendment: the circumstance that the cerebral symptoms were tertiary in their order of occurrence is one which should not perhaps be omitted in the consideration of this case, but I have already trespassed too far on your valuable space.

In conclusion, it may be remarked that these cases afford an illustration of one of the practical difficulties of diagnosis, that arising from the great degree of latency which sometimes masks the presence of serious disease, and at the same time exemplify in a striking manner, the tendency of morbid action in unhealthy constitutions to perpetuate and extend itself, and the extremely guarded prognosis which they consequently require even under appearances of a favourable tendency.

Devizes, May, 1847.

A CASE OF
CHILD-BEARING AT A LATE PERIOD
OF LIFE. •

BY JOHN DAVIES, M.D.

Physician to the Hertford General Infirmary, &c.

SARAH PEARCE (whose maiden name was Parish), residing at present at a place called Low Hill, in the parish of Roydon, Essex, presented herself a short time ago as an out-patient at the Infirmary, for some trifling affection. She represented herself to be 64 years of age, but it is probable that she is 63 only. Her appearance does not indicate above 54 or 55 years.

Upon inquiry into the history of her

case, I was informed by her that she had given birth to eleven children, and that the last was born when she was 55 years of age. Upon my expressing a doubt, from her appearance, whether she did not make a mistake of ten years, she promised to bring with her next time a certificate of her baptism, which she had obtained some years previously, for the purpose of assisting in proving her title to some little property which had been left to her and her brothers and sisters.

The baptismal certificate, from the parish books of Cheshunt, county of Hertford, signed by the present vicar, the Rev. M. M. Preston, is dated 20th February, 1785. She states that her birth-day is in April, so that she must have been born in April, 1784, at latest, which makes her now 63 years of age. She believes herself to be 64. Her youngest child, a girl, whom she brought with her for me to see, is eight years old. Supposing the mother to be only 63 years of age now, she must have been 55 when the child was born. But, as I stated before, she believes that she is now 64, and that she was 56 when the last child was born. Her eldest child, a son, is living, aged 37 next September.

She believes that she began to menstruate young, when she was only 12 or 13 years of age. She has not menstruated since the birth of the last child.

A case of this kind is worth recording, although it is not unique.

Hertford, May 13, 1847.

NEW METHOD OF ETHERIZATION.

(*Bulletin de la classe physico-mathématique de l'Acad. Imp. des Sciences de St.-Petersbourg.*)

COMMUNICATED BY PROF. PIROGOV.

By experiments on living animals I have learned that the vapour of ether can be made to affect the system by other means than those generally used at present; and that not only is feeling positively and totally annulled, but narcotization produced with less trouble to the patient, and even in a shorter time, than by inhalation. Operations on living men have shown these results, so that I have reason

to believe that the method of inhalation will, in time, be completely rejected. In twenty-six cases of operation I have been successful, by proceeding thus:—The lower part of the intestinal canal is emptied by a common clyster of soap and water; an elastic pipe is then introduced from three to four inches into the rectum; and is then connected, by means of a screw, to a siphon or syringe, a little less than one half of which is filled with ether, the other half with air. This apparatus is then covered with a towel, and warm water gently poured over it. In a very short space of time the vaporization of the ether commences, and the vapour, mixed with air, enters the bowels. Two ounces of ether were in most cases sufficient. Already, in two minutes, the breath of the patient has a smell of ether; the pulse is accelerated; and all the symptoms of narcotization are complete in five minutes. The apparatus, with the pipe, is then removed. It is evident that this method affords us a more gentle means of narcotization than that by inhalation, the lungs being not in the least affected. One point, I beg fully to be understood, is essential; that it is not ether *as a fluid* that is to be used as a clyster, but only the *vapour* of ether; because, as experiments on living animals have proved, the injected fluid would almost instantaneously be transformed into vapour in the bowels; the intestine would consequently be too rapidly expanded, and the greater quantity of ether (as vapour) would be ejected per anum. It is also necessary to empty the rectum of fæces, that the vapour may come into contact with the mucous membrane on a large surface.

This method of etherization evidently has the preference over the former method of inhalation: the organs of respiration remain untroubled; a complicated apparatus can be dispensed with; the effect of ether per anum is certain, being totally independent of the will of the patient; and lastly, the performance of many operations, which were either difficult or impossible, as those in the mouth, about the lips and face in general, are not interfered with.

April 17, 1847.

MEDICAL GAZETTE.

FRIDAY, MAY 28, 1847.

IN another part of this number,* our readers will find the details of the case of the "chirurgical pastrycook," to which we referred last week. For a knowledge of this singular affair, the profession is indebted to the energy and perseverance of the Taunton and Somerset Branch of the Provincial Medical and Surgical Association. We do not know that we ever met with a more clear exposition of the system by which certificates of "diligent" attendance are manufactured, and of the facility with which, by trickery and false pretences, the diploma of a member of the Royal College of Surgeons may be procured. If it be true, as the details of this case would lead us to believe, that a person who, until May 1845, and for many years previously, was a retail pastrycook and confectioner in a provincial town, varying his occupations by occasionally joining in an iron-foundry, and in practising homœopathy, could, by a year's devotion to medical studies in a metropolitan "qualifying" school, succeed in procuring a diploma, it is clear that great injustice is inflicted by the College in demanding from other candidates a much longer period of study.

It is impossible, whether we adopt this view or not, to avoid drawing the inference, that there is nothing more easy than to evade the apparently stringent regulations of the College; and that where a retail tradesman is so disposed, and is ambitious enough to covet a surgical diploma, he may easily set them at defiance. The result of this case clearly demonstrates that the Col-

lege is without the means of detecting an imposition of this kind; and, further, that the Board of Examiners are not capable of distinguishing between a pretender to surgical and anatomical knowledge, and one who has honestly and fairly fulfilled the whole of the tedious duties imposed upon him by their regulations. This is a great discouragement to those who, at a great expenditure of time and money, go through a regular course of education; and a strong inducement to the idle and less reputable class of students to avoid regular schools of instruction, where *four* years are occupied in teaching what a qualifying or grinding school can convey,—at least to the satisfaction of the College examiners,—in the short period of *one* year!

It appears that the council of the College came to the following resolution as the ultimatum of this remarkable case:—

"That it appears to the Council that Mr. James Dore Blake obtained his examination and letters testimonial by false statements and imposition,—the Council does therefore recall such letters testimonial, and hereby declares the same to be void;" and further, "that Mr. Blake be requested to return the diploma granted to him, he having ceased to be a member of this College."

Less than this, under the circumstances, the Council could not do; but there are some conclusions to which the facts necessarily lead, and these concern the successful pastrycook,—the Court of Examiners, and the medical schools licensed by the College.

First, in reference to the new "member:"—the only proceeding which it appears the College can take under its bye-laws against a person who has thus succeeded in deceiving the Board of Examiners "by false statements and imposition," is in declaring his admission to be wholly null and void, and in *requesting* (!) him to return the diploma,—a request to which, it is very

probable, he will pay no attention. Before receiving the diploma he might have practised and called himself a surgeon without it;—all that he could possibly have required was the document itself, with the respectable signatures of the members of the Court of Examiners attached to it, certifying that they had *deliberately* examined him, and had found him to be *fit and capable to exercise the art and science of surgery*, and that they had therefore admitted him a member of the College. This document, the authenticity of which cannot be disputed, will, doubtless, be exhibited, framed and glazed, in the homoeopathic confectioner's shop; and there it will, most probably, have all the effect which its possessor anticipated; for it is not likely that his customers will trouble themselves to inquire at the College, whether the diploma has or has not been recalled. We here touch a most serious defect in the constitution and laws of the College;—the erasure of a name from the College list of members, can be no punishment to a man who merely desired a formal document, conferring upon him the qualification of membership, and who had no scruple respecting the means by which he procured this document. The "request" to return a diploma which he has bought and paid for, and in order to obtain which he has submitted to the ordeal of a "regular examination," he may treat with contempt. The College should, undoubtedly, have the power not only of enforcing the return of an instrument obtained by fraud; but the proof of its having been thus obtained should be treated as a misdemeanour, punishable by imprisonment. It is just as much an offence against society as numerous other species of fraud, concerning which the criminal law is very explicit.*

* The 30th clause of the New Medical Registration Bill appears to us to be in this respect

So much for the homœopathic confessor, now rejoicing in the honourable title of M.R.C.S. We must next turn to the Board of Examiners: and here we shall take the liberty of suggesting to the Council of the College that some inquiry is due respecting the manner in which certificates are received and the examinations conducted. The College, like every other public body, is open to fraud and imposition; but it is, we think, the duty of the Council to adopt some more stringent measures than those now in force, in order to test the validity of the certificates upon which candidates are admitted to examination for the membership. They are, at present, manifestly insufficient for the purpose. Instances of personation and forgery have been reported to us to which we do not further advert, owing to the great difficulty of procuring proof; but we are satisfied that "false statements and imposition" annually lead to the issuing of diplomas to unworthy persons, and the facts are not, as in this case, brought to light. The respectable position of the great body of members is thus compromised, and the public are deceived. That there should be quack-nostrum mongers and "writers of in-

deficient. It enacts that "if any physician, surgeon, or apothecary (person?), shall have procured a certificate (as a physician, surgeon, or apothecary?) under this act by any fraud or false pretence" his name shall be erased from the register, and he shall lose the privileges of a registered medical practitioner. This does not appear to us to go far enough;—the practising of a fraud, or making use of a false pretence, is an offence against society, liable, in this case, to be attended with great injury to the public and the members of a respectable profession. It is no punishment to make a man restore that to which he has no title, and which he has obtained by fraud; for he is thereby only placed *in statu quo*, and he is at liberty to exercise his wits in trying some other fraudulent scheme,—a plan to which he is likely to resort when he finds that the only penalty assigned by the law is the restoration of a document which does not fairly belong to him. We do not think that it is the custom to deal in this innocent way with impostors who procure, by fraud and false pretence, certificates entitling them to practise as solicitors; but it requires a larger amount of cunning to deceive a board of examining lawyers than a board of examining

decent advertisements" among the members, when the diploma of membership is to be obtained upon such easy terms as in the case of this "pastrycook," can excite no surprise; but it is sad that such a laxity of discipline should be allowed to exist.

Some parties at the College are here decidedly to blame. Admitting that there was nothing on the face of the documents to indicate "false statements and imposition," it is clear, from the summary of the facts given by Dr. Woodforde, that the certificates actually received were not in accordance with the College regulations:—1. As to the period of study or duration of professional education. This rested upon certain loose statements made by persons not one of whom, so far as we can ascertain, is a member of the College! It is not stated whether the candidate was apprenticed, or in what other manner he obtained his professional education; nor is the time occupied in study so defined in any one of the certificates, as to justify its admission. 2. Instead of pursuing his studies in London during two anatomical seasons, each extending from October to April inclusive, and including a certain number of lectures, the certificates referred to an attendance during one summer and one winter season, comprising only one-half of the number of lectures required! 3. Contrary to an express regulation, the College authorities received certificates on *three distinct* branches of science signed by one and the same person.

Had, then, their own rules been properly observed, the disgrace of granting a diploma under such circumstances, would not have fallen upon them.

Another point of view in which this case appears to us to demand the attention of the Council is the kind of

examination upon which the diploma is granted. The medical certificates shew that this "retail tradesman's" medical education commenced May 1, 1845, and terminated May 1, 1846. During this *long* period, *i. e.* in *one year*, he attended, as we are informed by these documents, "unceasingly and diligently," no less than 610 lectures and demonstrations, besides the surgical practice of an hospital! He was found competent on examination, or the diploma would not have been granted to him: hence, as we have before remarked, it follows that a grievous injustice is inflicted by the College in demanding a period of *four years'* study, when *one year* is thus proved to be sufficient to render a man fit and capable to exercise the art and science of surgery,—or the examination is a mere form, and no test of a man's capability to undertake the practice of his profession. Thus, then, either the long course of study required by the present regulations should be reduced, or the mode of examination so altered, as to render it impossible for superficially-informed candidates to pass. The examination can neither be practical, searching, nor extensive, or a candidate of this description, whatever imposition he might have practised in procuring certificates, would assuredly not have passed the ordeal without detection and exposure. What a strong argument has the College here furnished to its opponents, on its inefficiency as an examining board, by this proof of laxity in neglecting to enforce its own formal regulations; and in allowing itself to be imposed upon by the anatomical and surgical knowledge of a retail cook and confectioner, acquired, according to the *medical certificates*, by *one year's* study of the profession!

As it concerns the principal medical schools which conform to the College regulations, the case is of serious im-

portance. An establishment advertises that a "surgeon" may be manufactured in it at *one-half* of the price charged elsewhere. An ambitious candidate desirous of expending but little capital and procuring a quick return, is attracted to these half-price establishments, not because he can obtain there better, or even equal, facilities for studying his profession, but because he can procure certificates at a much *cheaper* rate. The establishment, with all its deficiencies, is recognised by the College; and the consequences must be apparent to all who have watched this kind of mercenary competition. That cooks and confectioners should be thus introduced into the profession can create no surprise: the whole affair is made a matter of business: a certain consideration is paid down, and the diploma is guaranteed by a course of study to qualify a man, not to practise his profession, but to outwit his examiners, by furnishing him with cut and dried answers to routine questions! The system appears to be a profitable speculation to the parties concerned; but it unfortunately degrades the profession, by thrusting into its ranks ignorant and needy adventurers; and it injures the "whole-price" medical establishments, by creating a competition against them, not as to how far medicine and surgery may be well taught, but as to how *cheaply* certificates of "diligent" attendance may be obtained. The Council of the College has it in its power to apply a remedy here, by declining to recognise the certificates of individuals who thrive by such practices. By looking around them, they might soon find an opportunity of exercising this power.

We are sorry to perceive that so respectable an institution as the University College should have been drawn into this disgraceful affair. The con-

fectioner, upon the certificates of two of the surgeons, attended a year's practice of surgery at the hospital belonging to the College; and, but for this, the other certificates would not have sufficed to admit the candidate to an examination. This arises from the injurious practice of allowing medical education to be taken partly at one place and partly at another, thus placing the pupil beyond all control and supervision,—a practice which is, undoubtedly, a great source of irregularity and imposition. A man may procure certificates on a dozen subjects at as many different places, and no question is asked: he passes, and obtains his diploma. It would, in our judgment, be for the benefit not merely of the student, but of the profession of which he proposes to become a member, if he were compelled to make a selection and enter himself of one school,—no school being licensed by the College, unless it was fully provided with the means of teaching. Hospitals might thus lose a few pupils in the first instance, but they would in the end benefit by the change. This plan has of late years been carried out to a partial extent by the creation of consolidation fees; and the sooner this practice becomes universal, the better. Make it to the interest of a student to attach himself entirely to one respectable institution for his medical education; and there will be a better security against a diploma being procured through trickery, than by the enactment of the most stringent regulations.

We would conclude our remarks by observing—1, that when in a case of this kind there is evidence of connivance or collusion on the part of a "qualifying" establishment, the recognition should be withdrawn; 2, that, as when once deceived, there is no remedy against the delinquent member under the present state of the law, the

College should take care that it receives proper testimonials of preliminary education only from its own members; and it would be proper in future to hold them responsible for any false statement or imposition. According to the precedent in Mr. Blake's case, anybody may certify, and the College will not take the trouble to make those inquiries which are necessary to establish the genuineness and *bonâ fide* character of the certificates. We hope, however, that they will derive experience from and profit by the trick which has in this instance been so successfully played upon them.

Reviews.

An Essay on the Tongue, in Functional Derangement of the Stomach and Bowels, and on the appropriate Treatment: also, the Tongue's Aspect in Organic Disease of the Lungs and Heart, &c. &c. By EDWARD WILLIAMS, M.D. Cantab. Senior Physician to the Essex and Colchester Hospital. The Second Edition, carefully re-written, with much additional matter. 8vo. pp. 236. London: Simpkin Marshall, & Co.; and Renshaw. 1846.

It is surprising when we consider that, although in almost every case of every form of disease which presents itself to the notice either of the physician or the surgeon, the condition of the tongue is, as a matter of course, more or less carefully examined, still that the recognition of the various morbid appearances which the surface of that organ is wont to assume should never have been fixed upon any determinate rules, every practitioner grounding his opinion merely upon his own experience, without any reference whatever (except in a few species of disease, such as typhus and acute gastro-enteritic disease) to the views entertained by the rest of the profession. We are happy to find that a well informed physician is at length engaged in attempting to remove this objectionable relic of the ancient empirical system,

and to base the diagnosis of disease, so far as the tongue affords an indication, upon certain anatomical changes which the surface of that organ is wont to present in various forms of intestinal and other disorders.

The author informs us, that, in selecting cases for the illustration of this subject, he found that the tongue is liable to present itself under two principal aspects, namely, when the papillæ are developed, and when they are not observable.

"In pursuing the subject, by arranging the cases in a tabular form, it became apparent that when the papillæ, especially the filiform and tuberosæ, were prominent or florid, the gastric symptoms were the most prevalent; and this circumstance led to the examining the symptoms attending a development of the different orders of papillæ. A careful analysis of these cases established the inference that the stomach was principally affected when the filiform or tuberosæ papillæ were developed: hence is the tongue of gastric functional derangement. A like review of the remaining cases led to the conclusion that disturbance of the intestinal canal was accompanied by certain appearances of the tongue, the papillæ not being observable: and thus originated the '[chapter on] the tongue's aspect in functional derangement of the intestines.'"

The larger portion of the three sections of which the treatise is composed (on the state of the tongue in cases of gastric functional derangement; the tongue of intestinal functional derangement; and the tongue of organic change of the lungs and heart), being chiefly made up of elaborate tables and numerical deductions, will not admit of analysis, although well deserving of perusal. We shall merely give one of the author's summaries, as a specimen of the manner in which the subject has been treated.

On gastric irritability, on headache, and on the state of the bowels, in cases where the filiform, tuberosæ, and pyramidal papillæ were observed to be florid, anemic, or prominent.—"We find that gastric pain was remarked with the florid filiform papillæ in forty-five cases; with the florid filiform and tuberosæ papillæ in seventy-three; with the anemic filiform and tuberosæ papillæ in twenty; and with the prominent state of the pyramidal papillæ in thirty-three: shewing that, of three hundred cases, gastric irritation was felt in two hundred and nineteen. Gastric irritation was very intense with the anemic filiform and tuberosæ papillæ, and

this gastric irritability was unaccompanied with fugitive pains. Again, with the pyramidal papillæ there was intense gastric irritation, with fugitive pains, in twenty-two of forty-eight cases; gastric uneasiness being complained of in thirty-three of the forty-eight.

On headache.—"When the filiform papillæ were florid, the head sympathized more or less in thirty-five of sixty-five cases; with gastric symptoms in twenty-three; with constipation in seven; with gastric pain and constipation in twelve individuals.

"The head was complained of in thirty-nine instances when the tuberosæ papillæ were florid; with gastric irritation in twenty-five of seventy-one; with constipation in sixteen.

"When the filiform and tuberosæ papillæ were florid, the head was painful in forty-two of eighty-eight cases; with gastric pain in thirty-five; and with constipation in twenty-six; with gastric pain and constipation in twenty.

"The filiform and tuberosæ papillæ being anemic, headache was felt in sixteen of twenty-eight individuals, with gastric irritation in twelve, with constipation in eight, and with gastric pain and constipation in six individuals.

"The pyramidal papillæ, being prominent, was attended with head symptoms in twenty cases, with gastric irritation in eighteen, with constipation in eleven, and with gastric pain and constipation in nine individuals.

"The head, therefore, sympathized in a greater or less degree in one hundred and fifty-two of three hundred cases. Although headache was remarked in so many cases, yet the symptoms were not acute or intense; on the contrary, slight headache, confusion, or giddiness, seems to have prevailed; neither does there seem to be any coincidence between the head and gastric symptoms.

On the bowels.—"We find that constipation was complained of with the florid filiform papillæ in thirty-six, with the florid tuberosæ papillæ in forty-three, with the florid filiform and tuberosæ papillæ in fifty-one, with the anemic filiform and tuberosæ papillæ in fourteen, and with the pyramidal papillæ in twenty-three; thus shewing that the bowels were constipated in one hundred and sixty-seven of three hundred cases. Yet though constipation was thus observable in so many instances, it was neither a prominent nor an urgent symptom; a furred state of the tongue generally accompanied, or, in a greater number of cases, coincided with constipation."

It will be observed that the above numerical deductions are not calculated

to afford any very great assistance in diagnosis; still the principle upon which the facts, whence they are derived, have been collected is good; and we have little doubt that, when the examples of which the tables are composed amount to thousands instead of hundreds, some very interesting and valuable general laws may be developed from their analysis. The author found that the tongue was florid in eighty-eight of one hundred and two cases of pulmonary consumption, and anemic in fourteen. It was observed that, in several instances, the tongue was highly injected at the time that the pulmonary disease commenced, and that afterwards it became more natural in appearance.

The state of the tongue, as observed in forty-six cases of hepatization and infarction of the lungs, appears to have varied too much to admit of the deduction of any certain rule; the same remark applies to the cases of organic cardiac disease; the author, however, observes that there appears to be a greater tendency to an anemic tongue in these cardiac diseases; ossification being observed with an anemic tongue in two-thirds of those individuals in whom valvular opacity was detected.

We sincerely trust that, having these data before them, the profession will aid Dr. Williams in further carrying out the observations broached in his essay, by carefully noting the state of the tongue in numerous cases of gastric and intestinal derangement; of course leaving to the author the task, which he doubtless intends to pursue, of recording the condition of this organ in a great variety of other maladies. We consider that the profession is much indebted to Dr. Williams for his patient research, and for the judicious plan upon which his investigations have been pursued.

ADMINISTRATION OF ETHER BY THE RECTUM.

M. V. DUPUY states that he has tried the effects produced by ether on dogs and rabbits when injected into the rectum, and finds that sensibility is suspended as completely and in as short a time as it is when the ether is inhaled. The advantage of this mode of administration is, that none of the phenomena of asphyxia ensue, and consequently there is no change in the colour of arterial blood. — *Gazette Médicale*, 10th Avril, 1847.

Proceedings of Societies.

SOUTH LONDON MEDICAL SOCIETY.

May 13th, 1847.

C. WATERWORTH, Esq. PRESIDENT,
IN THE CHAIR.

Dr. TODD read some Cases of Pneumonia, &c.

The first was a tradesman, who three days previous had a severe rigor, which was followed by fever, pain of the side, and short breathing. At the time of Dr. T.'s visit he was suffering most acutely from an ill-defined constant pain at lower part of the right side and about the hepatic region, not increased by deep inspiration, although the breathing was agitated; there was deficiency of percussion sound at the base of the lung behind, with loose, moist, large crepitation; breathing elsewhere natural; pulse 120, compressible; the pain was most agonizing, resembling that of the passage of a biliary or renal calculus, but there was no vomiting. The patient had had good health up to the period of attack; had been bled to 3x. and been prostrated by tartar emetic, but without relief; a copious crop of labial herpes had appeared round the mouth. The diagnosis was not very clear, for although pleuritis and pleuropneumonia seemed indicated, the physical signs only accorded with this view, and the pain was quite out of proportion to the mischief indicated by these; a drachm of Battley's solution of opium was instantly given, and two grains of calomel with $\frac{1}{2}$ grain of morphia every four hours. Two days after, the patient was insensible and delirious, moaning, but no other indication of pain; pulse 120, throbbing; respiration 28; no dyspnoea; large crepitation at base of both lungs: the man was evidently sinking, and died on the following day.

On examination two days after death, although the weather was cold, the body was decomposed and putrid; both lungs, considerably congested at base, were covered with large, loose, moist flakes of lymph, with hepatization of a soft unhealthy kind; there was also a slight layer of very recently effused lymph over the close pericardium. The medical attendant, a fine healthy man, aged 60, was present during the examination, but did not touch the body, although a good deal disgusted with the putrid smell. He had been more than usually exposed to the prevailing cold wind and wet during the two or three previous days. On the evening of the day of the examination (Monday) he felt unwell, and on Tuesday, after a severe rigor, he became hot, feverish, oppressed at the chest, with a harsh dry cough: that night

he was feverish and perspired profusely, was extremely prostrated and delirious. On the Wednesday his pulse was quick, 100, very compressible; heart's action very feeble and irregular in force, and the first sound was scarcely audible; troublesome cough without expectoration; oppression at chest without definite pain; on auscultation a friction sound was audible at the base of the right lung; in front and at the side respiration was pure but feeble, in the left lung almost puerile. The author considering that some atmospheric or other poison prone to attack the thoracic organs had been imbibed and depressed the patient's powers, and that it would be hazardous to use active measures to cut short the attack, determined on husbanding the strength, and ordered small doses of ammonia, with diaphoretics and beef tea. The following day the pulse was more steady; a mucous rhonchus existed; the breathing was pure but feeble; puerile on left side; sweating profuse; and a copious herpetic eruption appeared on the lips. The stimulants were continued, and on the following morning a friction sound was heard at the base of the left lung with quick, compressible pulse, decided delirium, and profuse sweats; after that the prostration and delirium increased, the pulmonic affections became more clearly marked by the bronchial breathing; bronchophony, and dulness on percussion over scapula, and he was treated with ammonia and small doses of calomel and opium, his debility continuing great, and the perspirations at night and early in the morning very profuse, for which free doses of quinine were ordered, with wine and nourishment. A marked improvement followed this treatment; the tongue became moist, intellect clear, and the bronchial breathing was replaced by a large and moist crepitation, and in a week's time he was sufficiently well to render further attendance unnecessary.

The author alluded to the similarity of the above two cases, their severe constitutional symptoms and profuse sweating, and then narrated the following case occurring in a gentleman, æt. 69, who did not send for medical advice until three days after he had had a severe rigor. He was found with quick breathing, 40 a minute; pulse 120, very compressible and intermitting; very feeble action of heart, with a friction sound; large crepitation, some bronchial breathing, and dulness on percussion at the base of the left lung. The surface of the body was cold and the face blue. Death took place the following day. There was little doubt this was a case of peripneumonia in a weak and elderly man whose constitution possessed less power of resistance, and in whom the disease had not been combated by any remedial measures. Whilst attending these

cases, another from the same neighbourhood occurred. The patient, a man probably of intemperate habits and unhealthy appearance, was attacked with rigors, followed by cough, dyspnoea, and bronchophony of upper part of the left lung. Tartaremetic was dried, but in consequence of the prostration which was induced, stimulants, ammonia, and wine were had recourse to, under the use of which the hepatized lung restored itself, and he recovered. In this case there existed herpes labialis and profuse sweating, and much benefit followed the administration of quinine for the latter. The author, struck with such similar cases from the Surrey side of the river, was induced to inquire Dr. Addison's experience of that neighbourhood. He mentioned an equally acute and sudden attack he had just seen, and diagnosed as peripneumonia of both sides of the chest. The patient had been only ill two days, but Dr. A. was of opinion he could not live many hours after his visit. Shortly after this the author was called to see the case of a gentleman who had shivered the night before, and in whom the next day a copious crop of herpes labialis made its appearance: he had fever, troublesome cough, pure respiration over the chest, except in the scapular region of the left side, where there was a distinct, rather moist, crepitation; there was no expectoration. Sinapisms to the seat of lesion, sudorifics, and moderate purging, were had recourse to, with an allowance of his usual stimulus of one or two glasses of wine. The patient got well in two or three days.

Another case was a young man of healthy aspect admitted into the hospital suffering extreme dyspnoea after exposure to cold. There was large crepitation over both lungs, with friction sound at base of left; the dyspnoea was most urgent, the circulation exceedingly depressed, and the aspect was that of one under the influence of a poison. Counter-irritation by sinapisms, and small doses of ether and ammonia, were ordered, and on the following day crepitation had limited itself to the left lung, and in the neighbourhood of the friction-sound the great dyspnoea was relieved and the circulation established. The case now assumed the character of mild bronchitis, with pneumonia and pleurisy of part of the left lung. The treatment followed was the moderate administration of stimuli, blistering over the seat of the pleurisy, and the patient was convalescent in less than a week. During the recovery profuse sweating took place, which was greatly benefited by quinine.

The author had brought these cases before the Society, as occurring about the same period of time, and as presenting many points of resemblance both as to the mode of invasion, nature of lesion, and general constitutional effects. He regarded the lesion in its essence as a pulmonary irrita-

tion, more or less pneumonia in some of the cases, conjoined with pleuritis. The mode of invasion was quick and sudden in its effects on the system, producing what John Hunter termed "alarm of the nervous system," and all this before the local affection had distinctly shown itself (as seen in the second case). These circumstances strongly suggested the introduction of a poison into the system, which, although affecting the whole of the circulating blood, more especially spent its virulence upon the pulmonary tissue. These cases seemed to denote a poison of a particular locality, and also were of interest in reference to the pathology of pneumonia, which the author believed to be rarely idiopathic, meaning by this term a disease brought on independently of any specific poison or peculiar state of constitution.

With regard to treatment, if it be true that pneumonia is rarely idiopathic, the treatment laid down by systematic writers, as depletion, &c., may be considerably modified. The author was inclined to think that general depletion is unnecessary, and even local depletion might frequently be dispensed with, while cautious stimulating treatment would be productive of the best results. Where there is "alarm of the nervous system" bleeding appears especially mischievous, and the practitioner should wait until by sedatives he has calmed "the alarm," before he decides on the propriety of bleeding. The author concluded by mentioning a case to exemplify this:—A young man was seized with rigors and severe dyspnoea; the only physical sign detected was large crepitation at the base of the left lung. He was bled to ten ounces; and from this time, notwithstanding the exhibition of stimulants, sunk with great rapidity. On opening the body there was found great disparity between the local lesion and the general symptoms, the portion of hepatized lung in the centre of the lower lobe not exceeding the size of a small apple: all the remaining pulmonary structure being perfectly healthy.

Dr. BARLOW, having been answered by the author that the blood was bled and cupped, remarked that he had seen several such cases, where the blood had been in a similar state; the patients seemed relieved the day after the venesection, but sinking ensued afterwards. A peculiarity in the late epidemic was the liability to thoracic inflammation. He regarded it as an influenza attacking the serous membranes, especially of chest, as instanced by the pleuritis, pericarditis, and pneumonia so often present. In answer to a question from the President, he found herpes often present, and without pneumonia. The patients were generally aged, and the disease

proceeded with great rapidity. Dr. Todd's cases merely differed from his as to the universality of the pneumonia.

Dr. GULL did not consider the disease, which is the epidemic of the season, as a peculiar one. He viewed it as a form of influenza, conjoined with herpetic eruptions, pneumonia, or peripneumonia. He would ask the author's meaning of "idiopathic." He thought good would result in many cases if depletion was used on the first day of attack, but if herpes existed with the synocha this must be done carefully.

Mr. CRISP considered endemic would be a more fitting term than epidemic for the disease, and inquired whether it was confined to the south of London, or whether more diffused? This point could be learnt from the Registrar-General's reports, which, if consulted more frequently, would often lead to more correct conclusions. He believed the cases referred to would not bear depletion after the first day or two, but questioned whether it might not be used early in those cases marked by acute pain, fever, &c., denoting pleuritis, &c.

Dr. TODD remarked that the effect of bleeding and exhibition of tartarized antimony was marked prostration, otherwise he should have felt justified in following up such treatment. He believed, when the disease came on spontaneously, no constitutional affection preceding, depletion may be used, but in the above cases it was most injurious.

Dr. MURPHY considered no case more difficult to treat than inflammation of a vital organ having an atmospheric origin. Did not regard the cases as epidemic; he considered that diseases of such an origin always attacked a mucous surface, and mentioned some to exemplify the above remarks. He alluded to the exhibition of opium, as practised by Drs. Stokes and Graves in inflammation of serous membranes, and to Dr. Latham's observations, that where in pericarditis pain was most intense, the signs of inflammation were often slightest.

Dr. HUGHES believed that such cases often prevailed at this time of the year, and in such bleeding was generally inadmissible. The first case narrated appeared to him to differ from the others, and might have borne more active treatment: other cases got well under stimulants in a few days. Idiopathic pneumonia,—that is, pneumonia independent of any epidemic or miasmatic affection,—was by no means rare, and for such venesection was required. He alluded to the prevalence of epidemic diseases, as phlebitis, erysipelas, &c., at the present time, and to the more frequent appearance of scurvy, and the intolerance of depletion. Idiopathic pneumonia was not unfrequently

conjoined with herpes, but one might exist without the other.

Mr. CRISP, alluding to Andral's experience, thought the fact of only one lung being attacked militated against Dr. Todd's opinion of its non-idiopathic character.

Dr. TODD referred to the severe general symptoms in his first case before local disease became manifest, and it was not until after the depletory measures that the inflammation of the bases of both lungs, and of the pericardium, appeared. He thought the occurrence of herpes with pneumonia indicated a non-idiopathic character of the inflammation. Dr. WATSON, in his Lectures, regarded idiopathic pneumonia as rare, and was not in the habit of seeing more than eight or ten cases during the year. Dr. T.'s own experience did not show so many. In reference to the last observation, its occurrence in a single lung offered no argument against his opinion, as when one lung becomes inflamed, the other often will not become so.

Dr. BARLOW mentioned a case of pneumonia on one side; on the next day the opposite side was affected. The treatment consisted of local depletion, and doses of calomel and opium. Towards the close of the case, an herpetic eruption appeared: he viewed this as being often the case, and as not justifying us in concluding that an antecedent poison had been in operation. As regarded bleeding, many cases occurred in which marked prostration followed this treatment; but in other cases of sthenic pneumonia depletion was followed with success.

Dr. HUGHES drew attention to gangrene of the lung: he had rarely seen this state until the last year or two, since which time he had seen a comparatively large number of cases, which certainly did not arise from the increased frequency of bleeding.

The PRESIDENT also referred to a case of gangrene of the lung which he had seen about 15 years ago; the patient was not bled, and was now alive, which he did not think would have been the case if bleeding had been resorted to.

Dr. GULL alluded to the more frequent occurrence of pneumonia at the apex of the lung when it had a catarrhal origin; and Mr. HICKS argued against depletory measures, especially in the neighbourhood of London, although they might at first appear beneficial; stimulants generally act best. The experience of the President led him to coincide in this opinion.

Dr. MURPHY, having drawn attention to the profuse perspirations present in Dr. Todd's cases, remarked that where these are present no depletory measures should be used.

The Society then adjourned.

At the next meeting, May 27th, Mr. LODGE will read some remarks on the "Effects of Syphilis on the Fœtus in Utero."

Correspondence.

ETHER VAPOUR IN SURGERY.

SIR,—As from our present imperfect knowledge of the real action of the vapour of ether, every case illustrating the peculiarity of its effects must prove interesting. I do not hesitate to forward the following that you may find a space for it in your valuable columns.

A woman, aged 53, of a strenuous habit of body, and much addicted to drinking, applied to me last week to remove the right finger of the right hand at its articulation with the metacarpus, in consequence of extreme pain, which she had constantly suffered from a disease of the second joint of long standing, by which the flexor tendons had become so much contracted that the finger was fixed upon the palm of the hand, giving rise to great inconvenience as well as extreme agony.

After inhaling the ether for five minutes she became perfectly unresponsive; the vessels of the conjunctiva were enormously distended, the pupil much dilated, and the nervous and muscular systems excited to such a degree that I deemed it prudent to desist for a short time, the patient throughout having retained perfect sensibility.

On a second inhalation of two minutes she became completely narcotised, the effects being quite opposite to those of the first attempt. I immediately performed the operation; and on her recovery in about four minutes she declared she had not felt the slightest pain, but had dreamed she was in a neighbour's house, and that several parties were persuading her to have her finger removed.

Not the slightest untoward symptom has occurred, and the wound is healing faster than is usual in such cases.

I have only to add my conviction, from experience in several cases, that there is a power connected with the ether as yet unknown, of advancing, rather than retarding the progress of the cure in its after-stages,—perhaps on account of the vital powers not having sustained the shock of pain.

I am, sir,

Your obedient servant,

J. T. ROBERTS, M.R.C.S.

New Romney, May 18, 1847.

SPONTANEOUS AMPUTATION OF THE LIMB IN UTERO.

Dr. BEATTY has described a fœtus expelled at the fourth month of pregnancy, the left arm of which was nearly severed by the umbilical cord twisted around it, as has been noticed in other instances of spontaneous amputation of the limbs in utero.—*Dr. West's Report on Midwifery, 1845-6.*

Medical Intelligence.

A CASE IN WHICH THE DIPLOMA OF THE COLLEGE OF SURGEONS WAS LATELY OBTAINED UNDER FALSE PRETEXTS*.

Taunton and Somerset Branch of the Provincial Medical and Surgical Association.

At a Council meeting held on Thursday, May 6th, 1847,

Resolved,—

"That a verbatim copy of the whole of the correspondence connected with James Dore Blake's diploma be forwarded for insertion to the Editor of the *Provincial Medical and Surgical Journal*."

"FRANCIS HENRY WOODFORD, M.D.
President.

"CHARLES HAYES HIGGINS, F.R.C.S.
Honorary Secretary.

"Taunton, May, 1847."

CORRESPONDENCE.

Taunton, July 8, 1846.

Sir,—I am instructed by the members of Taunton and Somerset Medical Association to forward the inclosed memorial to the President and Council of the Royal College of Surgeons of England through you.

I am, Sir,

Your obedient servant,
CHARLES HAYES HIGGINS,
Honorary Secretary.

To Edmund Balfour, Esq. Secretary to the Royal College of Surgeons.

Taunton, June 25, 1846.

To the President and Council of the Royal College of Surgeons of England.

Gentlemen,—We, the undersigned, being Fellows and Members of the Royal College of Surgeons of England, residing in the town and neighbourhood of Taunton, and being desirous of upholding the dignity and respectability of our College, feel it our duty to draw your attention to the fact, that a Mr. James Dore Blake, who until May 1845, and for a period of about thirteen years previously, was a retail pastry-cook and confectioner in that town, has lately obtained the diploma of the College of Surgeons; and to represent to the Council, as well the scandal to our College which such a circumstance is calculated to produce, as the extreme hardship to those members of the College, who by the regulations of the College have been obliged to go through a lengthened period of regular study, and a

great deal of expense, in order to obtain a diploma, which has been granted to a retail shopkeeper of thirteen years' standing, after a period of only one year of alleged study, and at a comparatively trifling outlay of money.

And we farther call upon you, the President and Council of our College, to prosecute such inquiries into the testimonials and certificates produced by Mr. James Dore Blake, before the Court of Examiners, as shall place the matter in a position satisfactory to all concerned in upholding the honour and credit of the College of Surgeons.

We have honour to subscribe ourselves,

Your obedient servants,

ROBERT RUSSEL SWEET, Bridgewater.

FRANCIS HENRY WOODFORD, M.R.C.S.E.
Taunton.

WM. M. KELLY, M.R.C.S.E. Taunton.

GEORGE CORDWENT, M.R.C.S.E. Taunton.

JOHN FRANKER, M.R.C.S.E. Langport.

H. W. RANDOLPH, M.R.C.S.E. Milverton.

HENRY FOOT LING, M.R.C.S.E. Stogumber.

CHARLES HAYES HIGGINS, F.R.C.S.E.,
Taunton.

CHARLES HUGO, M.R.C.S.E.

JAMES DYER, M.R.C.S.E., Creech.

WILLIAM BEATON, M.R.C.S.E.

WILLIAM CATLETT, M.D. M.R.C.S.E.

HENRY ALDRED, F.R.C.S.E.

FRANCIS WELCH, F.R.C.S.E.

FRANCIS FOSTER, M.R.C.S.E.

HENRY LIDDON, M.R.C.S.E.

JOHN LIDDON, F.R.C.S., Eng.

C. H. CONNISH, F.R.C.S., Eng., Wellington.

WILLIAM COLLARD PYNE, M.R.C.S.E., Wellington.

W. C. PYNE, Jun., M.R.C.S.E., Wellington.

ALBERT LANGLEY, M.R.C.S., Esq.

GEORGE KIDGELL, M.R.C.S.E., Wellington.

*Royal College of Surgeons of England,
July, 1846.*

Sir,—I have laid before the Council of this College the memorial enclosed in your letter of the 8th instant, signed by five Fellows, and eighteen other Members of the College, residing in the town and neighbourhood of Taunton, drawing the attention of the Council "to the fact, that a Mr. James Dore Blake, who until May, 1845, and for a period of about thirteen years, was a retail pastry-cook and confectioner in that town, has lately obtained the diploma of the College of Surgeons," and calling upon "the Council to prosecute such inquiries into the testimonials and certificates produced by Mr. James Dore Blake, before the Court of Examiners, as shall place the matter in a position satisfactory to all concerned in upholding the honour and credit

* From the last number of the *Provincial Medical and Surgical Association*.

bility of the College of Surgeons." And I am directed by the Council to transmit to you copies of the several certificates handed in by Mr. Blake, prior to his admission to examination for the diploma of this College.

I am, sir,

Your most obedient servant,

EDMUND BALFOUR, Sec.

Charles Hayes Higgins, Esq.

Honorary Secretary,

Taunton and Somerset Medical Association.

ROYAL COLLEGE OF SURGEONS OF
ENGLAND.

CERTIFICATES OF EDUCATION.

Preliminary Education.

"If the Candidate began the study of his profession previously to his attendance on lectures or hospital practice, let it be here stated, and whether the same was by an apprenticeship, or in what other manner."

[*Printed Certificate filled up.*]

"It is hereby certified, that Mr. J. D. Blake has been employed in the study of medicine during the last ten years, about five of which he acted with me, and under my directions, and to my perfect and entire satisfaction.—Dated 2d day of April, 1845.

"Signed W. H. TROTMAN, Surgeon, R.N.

(See also letters appended.)

Anatomy and Physiology.

"This and the following certificate are divided into two parts, as the regulations of the College require, that the attendance should have been during two distinct Anatomical Sessions, of six months each, and comprising at least 140 lectures, and 100 demonstrations."

"It is hereby certified, that Mr. James Dore Blake very diligently attended my lectures on Anatomy and Physiology, at the School of Medicine, Charlotte Street, Bloomsbury, from the 1st day of May, one thousand eight hundred and forty-five, and that this course or session included seventy lectures.—Dated 1st day of April, 1846.

"Signed G. D. DERMOTT."

"It is hereby certified, that Mr. James Dore Blake very diligently attended my course of lectures on Anatomy and Physiology at the school of Charlotte Street, Bloomsbury, from the 1st day of October, one thousand eight hundred and forty-five, to the 1st of April, one thousand eight hundred and forty-six, and that this session included 142 lectures.—Dated 1st day of April, 1846.

"Signed G. D. DERMOTT."

Demonstrations and Dissections.

"It is hereby certified, that Mr. James

Dore Blake very diligently attended my Anatomical Demonstrations at the School of Medicine, Charlotte Street, Bloomsbury, from the 1st day of May, one thousand eight hundred and forty-five, to the 1st day of August, one thousand eight hundred and forty-five; that this session included fifty demonstrations, and that he diligently dissected during the same period.—Dated 1st day of April, 1846.

"Signed G. D. DERMOTT."

"It is hereby certified, that Mr. James Dore Blake very diligently attended my Anatomical Demonstrations at the School of Medicine, Charlotte Street, Bloomsbury, from the 1st day of October, one thousand eight hundred and forty-five, to the 1st day of April, one thousand eight hundred and forty-six; that this session included upwards of 100 demonstrations, and that he diligently dissected during the same period.—Dated 1st April, 1846.

"Signed G. D. DERMOTT."

Surgery.

"This certificate also is divided into two parts, as the regulations of the College require that the attendance on surgical lectures should have been during two distinct periods or seasons, each comprising not less than sixty lectures."

"It is hereby certified, that Mr. James Dore Blake very diligently attended my lectures on Surgery at the School of Medicine, Bloomsbury, from the 1st day of May, one thousand eight hundred and forty-five, to the 1st day of August, one thousand eight hundred and forty-five; and that this course included forty lectures.—Dated 1st day of April, 1846.

"Signed G. D. DERMOTT."

"Mr. J. D. Blake also very skilfully performed many of the capital surgical operations on the dead body under my superintendence."

"It is hereby certified that Mr. James D. Blake very diligently attended my lectures on Surgery, at the School of Medicine, Bloomsbury, from the first day of October, one thousand eight hundred and forty-five, to the 1st day of April, one thousand eight hundred and forty-six; and that this session included eighty lectures.—Dated 1st day of April, 1846.

"Signed G. D. DERMOTT."

Practice of Medicine.

"Required to occupy a period of six months, and to comprise not less than sixty lectures."

"It is hereby certified that Mr. J. D. Blake very diligently attended my lectures on the Practice of Medicine, at the School

of Medicine, Charlotte Street, from the 1st day of October, one thousand eight hundred and forty-five, to the 1st day of April, one thousand eight hundred and forty-six; and that this course included 100 lectures.—Dated 1st day of April, 1846.

"Signed J. C. B. ALDIS, M.D."

Chemistry.

"Required to occupy a period of six months, and to comprise not less than sixty lectures."

"It is hereby certified that Mr. James D. Blake attended my lectures on Chemistry, at the School of Medicine and Surgery, Charlotte Street, from 1st day of October, one thousand eight hundred and forty-five, to the 1st day of April, one thousand eight hundred and forty-six; and that this course included sixty lectures.—Dated 1st day of April, 1846.

"Signed JOHN RYAN."

Midwifery.

"Required to occupy a period of six months, and to comprise not less than sixty lectures."

"It is hereby certified that Mr. James D. Blake attended my lectures on Midwifery, at the School of Midwifery, Russell Place, from the 1st day of May, one thousand eight hundred and forty-five, to the last day of December, one thousand eight hundred and forty-five; that this course included upwards of one hundred lectures, and that he has attended several midwifery cases under my direction.—Dated 13th day of February, 1846.

"Signed J. H. DAVIS."

Botany.

"Required to occupy a period of three months, and to comprise not less than thirty lectures."

"It is hereby certified that Mr. J. D. Blake has diligently attended my lectures on Botany at the School of Medicine, Charlotte Street, from the 5th day of May, one thousand eight hundred and forty-five, to the 24th day of July, one thousand eight hundred and forty-five; and that this attendance included thirty lectures.—Dated 29th day of July, 1846.

"Signed B. CLARKE."

Materia Medica.

"Required to occupy a period of three months, and to comprise not less than thirty lectures."

"It is hereby certified that Mr. James Dore Blake attended my lectures on Materia

Medica, at the School of Medicine, Charlotte Street, Bloomsbury, from the 2d day of October, one thousand eight hundred and forty-five, to the 1st day of April, one thousand eight hundred and forty-six; and that this course included eighty lectures.—Dated 1st day of April, 1845-46.

"Signed GEO. SMITH, M.D."

Hospital Surgical Practice.

"This certificate is divided into two parts, in case the attendance should have been at more than one Hospital, or at the same Hospital, but not during consecutive periods."

"We hereby certify that Mr. James D. Blake attended the Surgical Practice of University College Hospital, from the 1st day of May, one thousand eight hundred and forty-five, to the 1st day of May, one thousand eight hundred and forty-six."—Dated 1st day of May, 1846.

"Signed ROBERT LISTON,

R. QUAIN,

"W. Long." "Surgeons to the Hospital."

Certificate of Age.

"In the event of much difficulty or expense in obtaining the certificate of age on this sheet, it may be procured separately and appended thereto."

Declaration.

"This declaration to be signed by the candidate at the College, in the presence of the Secretary or other officers."

"I, James Dore Blake, candidate for the diploma of the College of Surgeons of England, do hereby solemnly and sincerely declare, that I am twenty-two years of age;—that I have been engaged during five years in the acquirement of professional knowledge;—that I have regularly attended the hospital practice, and the several courses of lectures required by the regulations of the College;—and that the foregoing certificates are in every respect correct and true.—Dated this 4th day of May, 1846.

"JAMES DORE BLAKE.

"Witness H. P. Gregg.

"Taunton, Feb. 20, 1846.

"I hereby certify that Mr. James D. Blake, of Taunton, was born in Salisbury, on the 18th day of November, one thousand eight hundred and five.

"JAMES BLAKE."

Memoranda of additional Certificates, produced in testimony of an extended Professional Education.

"I certify that Mr. James Dore Blake has skilfully performed many of the principal

surgical operations during the session last passed, and terminating this present month.

"G. D. DERMOTT.

"School of Medicine, Bloomsbury,
"April 29, 1848."

[Schedule according to the regulations of
March, 1835.]

"Edm. Balfour, Sec.
"College of Surgeons, 2d June, 1846.

*Private Certificates in the form of Letters
forwarded from the College of Surgeons.*

(Copy.)

"I hereby certify that Mr. J. D. Blake has been employed in the study and practice of medicine during the last ten years, about five of which he acted with me and under my direction, and to my perfect and entire satisfaction.

"W. H. TROTMAN, Surgeon, R.N.
"Bristol, 2d April, 1845."

(Copy.)

"Oaklands, Taunton, Somerset,
"April 20, 1845.

"This is to certify that Mr. James D. Blake has for many years to my knowledge been studying medicine as an amateur, and for several years past in the profession as an assistant and practitioner.

"HENRY SULLY,
M.D. to his Majesty the King of Hanover."

(Copy.)

"This is to certify that Mr. J. D. Blake, of Taunton, Somerset, has been for many years a student of medicine and surgery, for which he has a rare natural aptitude; that he was for many years under the direction and superintendence of a qualified practitioner; and moreover that he has been actually pursuing the practice of medicine for several years past.

"C. D. J. LOWDER, M.D.,
Physician to the Bailbrook Lentic Asylum.
"Ston Lodge, Bath, Dec. 3, 1845."

(Copy.)

"I have great pleasure in testifying that I have known Mr. J. D. Blake for several years, during which time he has been studying medicine, and practising the same.

"I consider him to have a peculiar aptitude for this branch of science, and I should put myself under his care, (and indeed have consulted him), with the greatest confidence.

"J. W. WELLESLEY.
"Sheffield, Nov. 13, 1843."

(Copy.)

"I hereby certify that Mr. James Dore Blake has assiduously and most diligently attended my lectures during the summer of 1845, commencing on the 1st day of May last, and terminating in the latter end of the July following.

"That he has also very diligently dissected during the above period, and performed under my superintendence many of the capital surgical operations.

"That he is also attending, with the strictest diligence and regularity, the present winter course now delivered at the Charlotte Street School of Medicine.

"G. D. DERMOTT.
"Bedford Square, Feb. 9th, 1846."

(Copy.)

"This is to certify that Mr. James Dore Blake has been in very regular attendance on the Hospital Practice and Clinical Lectures at the Institution since May, 1845.

"RICHARD QUAIN, M.D.
"House Physician,
"University College Hospital.
"Feb. 7th, 1846."

(Copy.)

"University College, 6th Feb. 1846.

"I certify that Mr. J. Dore Blake has been a diligent attendant at the Hospital during the time he has been a pupil of the Hospital.

"R. QUAIN."

MEMORIAL SECOND.

*To the President and Council of the Royal
College of Surgeons in England.*

Gentlemen,—Some time since, a memorial signed by four Fellows and nineteen other Members of the College of Surgeons was presented to you, touching the diploma of a Mr. James Dore Blake, for many years and until May, 1845, a retail shopkeeper, &c. in the town and neighbourhood of Taunton, Somerset. In reply to this memorial you were pleased to transmit through the Secretary of the College, authentic copies of the testimonials and certificates, in consideration of which Mr. Blake was admitted to an examination, and subsequently obtained from you a diploma.

Having given these testimonials and certificate full consideration and a careful examination, we, your memorialists, beg to submit, that in *three particulars* they are at variance with the regulations and requirements laid down by the College authorities for the advancement of candidates of Mr. Blake's (supposed) standing; and we beg respectfully to call your attention to this circumstance, believing as we do that it is calculated to throw great discredit upon our own diplomas, and to prejudice the respectability of our College.

By the regulations of the Council respecting the professional education of candidates for the diploma, dated March 14th, 1835, candidates are required "to bring proof" amongst other matters, of having been engaged five years in the acquirement of professional knowledge; of having studied anatomy and physiology, by attendance on

lectures and demonstrations, and by dissections, during two anatomical seasons.*

It is moreover stated, that "certificates will not be received on more than two branches of science, from one and the same lecturer; but anatomy and physiology, demonstrations and dissections, materia medica and botany, will be respectively considered as one branch of science."

Now, upon referring to Mr. Blake's certificates, we find the following points upon which the regulations of the College appear to have been avoided or neglected:—

And first as to certificates of the period or duration of professional education, we can discover only certain loose letters from various persons, referring to a period of about ten years; whereas the College authorities require that it should be stated "whether" such professional education "was by an apprenticeship, or in what other manner." And on this point we beg farther again to draw your attention to the fact, that from the year 1830, to the 1st of May, 1845, Mr. Blake was actively engaged as a retail tradesman, his career during that time having been as follows:—

From 1830, or thereabouts, until December, 1839, Mr. Blake was personally engaged as a retail pastry-cook, in the town of Taunton. At that date he embarked in co-partnership with a Mr. Richards, of the same town, in an iron foundry, taking an active share in his new business. From Mr. Richards Mr. Blake separated, somewhere about March, 1841, when he opened a pastry-cook's shop in the city of Bristol, where he remained until September, 1842, combining with the duties of his shop the study of homoeopathy, under a Mr. Trotman, an homoeopathic practitioner in that city, and from whom a certificate was received at the College, as proof of Mr. Blake's professional education. From September, 1842, to December, 1843, Mr. Blake was occupied in smelting iron ore for Sir Thomas Lethbridge, residing in the immediate neighbourhood of Taunton. And finally, in December, 18'3, or January, 1844, he returned to Taunton, having purchased the business of a Mr. Hitchcock, a retail pastry-cook, and in which business he was constantly and personally engaged, until May, 1845, combining, as at Bristol, with the duties of his shop, the study and practice of homoeopathy. In May, 1845, he removed to London, and on the 9th of May, 1846, he obtained his diploma, and is now a professed homoeopathic practitioner at Taunton.

* An anatomical season is understood to extend from October to April inclusive, and to comprise at least 140 lectures on Anatomy and Physiology, and at least 100 demonstrations, &c. exclusive of dissections, of which distinct certificates are required.

In the second place we find that instead of two anatomical seasons, each extending "from October to April, inclusive," and comprising at least 140 lectures, 100 demonstrations, &c. &c., Mr. Blake's certificates only shew attendance on the required studies during one winter season, of 140 lectures, and one summer season of three months, comprehending only 70 lectures, on anatomy and physiology; and one winter season of demonstrations, of 100 demonstrations; and one summer season, of 50 demonstrations.

And lastly, we find that Mr. Blake has been permitted to hand in certificates of lectures on *three distinct* branches of science, delivered by one and the same person, viz. on anatomy and physiology,—on demonstrations and dissections,—and on surgery.

Having pointed out these circumstances, we beg to commit the matter into your hands, trusting that you will cause such inquiries to be instituted, as in the words of our former memorial "shall place the matter in a position satisfactory to all concerned in upholding the honour and credibility of the College of Surgeons."

Signed by desire and on behalf of the former Memorialists and of the Members generally of the Taunton and Somerset Branch of the Provincial Medical and Surgical Association.

FRANCIS HENRY WOODFORD, M.D. M.R.C.S. President.

CHARLES HAYES HIGGINS, F.R.C.S.E. Honorary Secretary.

Taunton, November 12th, 1846.

No reply having been received to this second memorial, the following letter was addressed to the authorities of the College:—

To the President and Council of the Royal College of Surgeons of England.

Gentlemen,—We are instructed by the members of the Taunton and Somerset Branch of the Provincial Medical and Surgical Association, to draw your attention to their memorial bearing date November 12th, 1846, and referring to the diploma of a Mr. James Dore Blake, until very lately a retail shopkeeper, and now an homoeopathic practitioner in the Town of Taunton.

And we are further directed to enquire whether any, and what answer may be expected to the above memorial.

(Signed,)

FRANCIS HENRY WOODFORD, M.D. F.R.C.S. President.

CHARLES HAYES HIGGINS, F.R.C.S.E. Honorary Secretary.

Taunton, December 15th, 1846.

To F. H. Woodford, M.D. and C. H. Higgins, Esq.

Gentlemen,—I have received your letter of the 16th instant, relating to a memorial

on the subject of a diploma granted to Mr. James Dore Blake, and enquiring whether any and what answer may be expected to that memorial.

I beg to inform you, that the earliest opportunity was taken of laying that memorial before the Council, who are now engaged in the consideration of the subject, regarding it as one of great importance, and requiring full investigation, which they are determined to follow up with as little delay as possible.

I have the honour to remain,

Gentlemen,

Your very obedient servant,

WILLIAM LAWRENCE.

Royal College of Surgeons,
Lincoln's Inn Fields.

Royal College of Surgeons of England,
April 29th, 1847.

Sir,—By direction of the Council of this College I transmit to you copies of resolution of the Council, on the 27th instant.

I have the honour to be, sir,

Your most obedient servant,

EDMUND BALFOUR, Secretary.

Dr. Woodforde,

President of the Taunton and Somerset
Branch of the Provincial Medical and
Surgical Association.

At an extraordinary meeting of the Royal College of Surgeons of England, on Tuesday, the 37th of April, 1847,

Resolved,—That the following resolution of the 19th of April instant be confirmed.

"That it appears to the Council that Mr. James Dore Blake obtained his examination and letters testimonial by false statements and imposition, and the Council does therefore recal such letters testimonial, and hereby declares the same to be void."

Resolved—"That Mr. Blake be requested to return the diploma granted to him, he having ceased to be a member of this College."

EDMUND BALFOUR, Secretary.

COMMITTEE ON THE MEDICAL REGISTRATION BILL.

THE following members have been nominated to serve on the Select Committee on Medical Registration and the state of the Medical Laws:—Mr. Wakley, Mr. Macaulay, Sir James Graham, Mr. Hamilton, Mr. Bannerman, Lord Robert Grosvenor, Mr. Acland, Mr. Hawes, Mr. Fitzstephen French, Sir Robert Harry Inghis, Mr. Dennistoun, Viscount Sandon, Mr. Boyd, Mr. Aldam, and Mr. Lascelles.

ADVERTISEMENTS ON MEDICAL SUBJECTS.

THE daily papers abound with advertisements which display the ignorance and credulity of the public. Unless they answered in a pecuniary point of view, they would not so frequently meet the eye. Here is the specific for preservation from drowning:—

"A child's caul to be sold, as preservation from drowning. For price address letters, pre-paid, to —"

We have a shrewd suspicion from the advertisements coming generally from one quarter of the metropolis, that there is a regular manufacture of this article to meet the demands of seafaring men. We are informed that from five to ten guineas are paid for a caul by the dupes of this gross imposture! On what pretence can the administrators of the law punish an old gipsy for telling fortunes and casting nativities, when they allow money to be thus openly levied under false pretences by another class of impostors? The following, taken from the same newspaper, more immediately concerns the profession:—

"To the medical profession.—A lady of title has in her possession the original recipe of the late Dr. G. C. Smith, for the cure of typhus fever, for a copy of which Parliament many years since gave 5,000 guineas, and which she is willing to dispose of."

A recipe for the cure of typhus fever! The allegation that Parliament gave 5,000 guineas for a medical recipe will not carry with it any strong recommendation in the opinions of medical men. They have not yet forgotten that Parliament stultified itself by dabbling in physic, in giving a much larger sum to Mrs. Stevens for her specific for stone in the bladder, which turned out to be "snails calcined in their shells," and articles of that description! This advertising lady of title would in our opinion have made a better speculation if she had only adopted the old trick of promising to communicate the secret on payment of the expense of the advertisement. As each applicant is expected to pay, the advertiser commonly reaps by this piece of ingenuity a very decent sum. The secret turns out to be worth nothing, but then the loss is not very great to each individual. We are under no apprehension, however, of medical practitioners being deceived by these tricks whether they originate from titled or untitled ladies.

APPLICATION OF ETHER VAPOUR TO APIARIES*.

THE correspondent who lately suggested an ingenious plan for taking honey from hives by narcotizing bees with ether vapour, has sent us the following additional remarks on the subject:—

The method of applying the ether which I think would prove the most convenient is by means of a tin cover, larger in every direction by three inches than the hive, with an opening at the top, regulated by stop-cock, to admit the liquid, trusting to the density of its vapour for the result. One or

* See page 830.

more windows of transparent horn may be inserted into the sides; this should be placed over the hive in the manner of an extinguisher, and two scruples of the ether introduced. Should the patients remain rather too long in the insensible stage, exposure to the heat of the sun is followed by the best effects. A common tumbler inverted, and a few drops of good *Æth. Sulph.* are sufficient to test the efficiency of the plan.

SUCCESSOR TO LISFRANC.

It is reported that Professor Bérard, Senr. will succeed the late M. Lisfranc as Chief Surgeon of the Hospital of La Pitié.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN IN LONDON AND ITS VICINITY.

THE Annual Dinner of this society took place last Saturday at the London Tavern, Sir Charles M. Clarke, Bart., the President, in the chair. Want of space obliges us to postpone a report of the proceedings.

UNIVERSITY OF CAMBRIDGE.

Gonville and Caius College.

May 12. Examination in Chemistry.—Hilton—Woodhouse.

May 14. Examination in Anatomy and Physiology.—Rogers—Kendell.

No recommendation to scholarships.

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted Members on Friday, May 21, 1847:—R. P. Bayley—W. H. Brace—H. Tireman—R. Bentley—J. F. O'Leary—H. W. Slack—A. Somers—G. A. Wilkinson—W. B. Deacon—J. Ward—R. N. Bower.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination and received certificates to practise on Thursday, May 20th, 1847:—Charles King, Southampton—George Milburn, North Shields, Northumberland—William David Wilkes, Salisbury—John Smith, Bishop's Lydeard, Taunton, Somerset—Samuel James Augustus Salter, Poole, Dorsetshire—Richard Jones, Brackley, Northamptonshire—Ellis Southern Guest, Manchester—Charles Frederic Augustus Courtney, Ramsgate—William Honner Fitzpatrick, 11, Earle Street, Liverpool.

OBITUARY.

DR. W. MESHAM.

ON the 15th inst., at Bedford, Dr. William R. Mesham, Physician to the Bedford General Infirmary. The deceased was found dead in the Committee-room of the Infirmary, and his death had been obviously caused by prussic acid.

PROFESSOR WAGNER.

Lately, at Berlin, Dr. Wagner, Professor in the University, aged 55.

DR. RAMON.

SUDDENLY, at Madrid, Dr. Ramon (de Capdeville), Professor of Materia Medica in the University.

Selections from Journals.

CHEMICAL CHARACTERS OF THE BLOOD AFTER THE INHALATION OF ETHER.

BY M. LASSAIGNE.

SOME experiments have lately been undertaken by M. Lassaigue for the purpose of ascertaining if any obvious changes are effected in the blood by the inhalation of ether. A portion of venous blood for analysis was drawn from a healthy dog: the animal was then submitted to the influence of etherial vapour by being confined in a wooden box through which the vapour was passed: at the end of thirty minutes the animal was stupified, and another portion of venous blood was then drawn. These specimens of blood were submitted to analysis and the general conclusions obtained were to the following effect:—

1. The portion of blood collected before, and that collected after the inhalation, presented no marked difference in colour, nor in the period at which their coagulation took place; the former portion presented the ordinary odour of blood, the latter emitted a well-marked odour of ether.

2. After remaining at rest for four-and-twenty hours in order to allow time for the perfect separation of the clot, the proportions of clot and serum were found to stand in the following relation:—

Blood before inhalation. After inhalation.	
Clot	65.46 59.66
Serum . . .	34.54 40.34
	100.00 100.00

The clot of the first specimen of blood appeared to be of a somewhat firmer consistence than that of the etherized blood.

3. Analysis shewed that, with the exception of a small quantity of ether contained in that abstracted after the inhalation, the two portions of blood were composed of the same essential principles, as may be seen in the subjoined table:—

Composition of the blood— Before inhalation. After inhalation.	
Water	723.6 778.9
Fibrine	2.4 1.7
Globules . . .	183.1 147.4
Albumen & salts	90.9 72.0
	1000.0 1000.0

If the excess of water which the blood contained after inhalation be deducted, it will be found that the quantities of albumen, fibrine, and globules, stand in the same relative proportions towards each other as they do in the blood before inhalation: thus after each deduction the proportion of fibrine would be 1.9 instead of 1.7; of the globules, 146.4 instead of 147.4; and of albumen 72.7 instead of 72.

4. The proportion of ether contained in etherized blood is so small, that it is not possible to deduce it from the examination of so small a quantity. An attempt however has been made to determine it by studying comparatively, under the same conditions of temperature and barometric pressure, the tension of the vapour of the serum of blood before and after inhalation, and comparing these two tensions with that of an aqueous solution of ether in certain known proportions. The results obtained by such a method would seem to authorize the opinion that the proportion of ether absorbed and dissolved by venous blood would constitute about 0.0008 of its mass, and that the composition of the fluid would therefore be about as follows:—

Venous blood . .	99.919
Sulphuric ether . .	0.081
	100.000

Comptes Rendus, 8 Mars, 1847.

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, May 15.

BIRTHS.	DEATHS.	Av. of 5 Spr.
Males.... 668	Males.... 512	Males.... 468
Females.. 659	Females.. 466	Females.. 446
1327	978	914

DEATHS IN DIFFERENT DISTRICTS.

(34 in number;—Registrars' Districts, 129.
Population, in 1841, 1,915,184.)

WEST—Kensington; Chelsea; St. George, Hemover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 801,326)	150
NORTH—St. Marylebone; St. Pancras; Islington; Hackney .. (Pop. 366,303)	160
CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London .. (Pop. 374,738)	180
EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar .. (Pop. 393,247)	215
SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich .. (Pop. 473,460)	264
Total	978

CAUSES OF DEATH.

	Spring av.
ALL CAUSES	978 974
SPECIFIED CAUSES	974 969
1. Zymotic (or Epidemic, Endemic, Contagious) Diseases ..	157 166
<i>Sporadic Diseases, viz.—</i>	
2. Dropsy, Cancer, &c. of uncertain seat	90 90
3. Brain, Spinal Marrow, Nerves, and Senses	152 158
4. Lungs and other Organs of Respiration	332 375
5. Heart and Bloodvessels	31 29
6. Stomach, Liver, and other Organs of Digestion	88 70
7. Diseases of the Kidneys, &c. ..	12 8
8. Childbirth, Diseases of the Uterus, &c.	14 10
9. Rheumatism, Diseases of the Bones, Joints, &c.	9 8
10. Skin, Cellular Tissue, &c.	3 1
11. Old Age	57 57
12. Violence, Privation, Cold, and Intemperance	29 28

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	13	Convulsion	42
Measles	18		
Scarlatina	15	Bronchitis	59
Hooing-cough.. 30		Pneumonia	67
Typhus	53	Phthisis	157
		Dis. of Lungs, &c. 14	
Dropsy	10	Teething	7
Sudden deaths .. 8		Dis. Stomach, &c. 5	
		Dis. of Liver, &c. 20	
Hydrocephalus .. 46			
Apoplexy	20	Childbirth	11
Paralysis	19	Dis. of Uterus, &c. 2	

REMARKS.—The total number of deaths was 64 above the weekly Spring average. The mortality from diseases of the lungs is on the increase. Deaths from typhus are also much above the Spring average (34).

METEOROLOGICAL SUMMARY.

Mean Height of Barometer	29.66
“ “ Thermometer	56.1
Self-registering do. max. 97.3 min. 52	
“ in the Thames water — 56 — 57.5	

• From 12 observations daily. • Sea.

RAIN, in inches, .54: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 2.1° above the mean of the month.

NOTICES TO CORRESPONDENTS.

The space devoted to lectures has again compelled us to postpone many communications which are in type.

The letters of Mr. Pittard and Mr. Richardson next week.

Dr. Wood's paper has been received, and will be inserted.

ERRATUM.—In Dr. Griffiths' paper in our last number, at p. 904, c. 2, l. 30 from top, for “the wine deposited a very great amount of ammonia,” read “deposited a small amount of lithate of ammonia.”

tion, more or less pneumonia in some of the cases, conjoined with pleuritis. The mode of invasion was quick and sudden in its effects on the system, producing what John Hunter termed "alarm of the nervous system," and all this before the local affection had distinctly shown itself (as seen in the second case). These circumstances strongly suggested the introduction of a poison into the system, which, although affecting the whole of the circulating blood, more especially spent its virulence upon the pulmonary tissue. These cases seemed to denote a poison of a particular locality, and also were of interest in reference to the pathology of pneumonia, which the author believed to be rarely idiopathic, meaning by this term a disease brought on independently of any specific poison or peculiar state of constitution.

With regard to treatment, if it be true that pneumonia is rarely idiopathic, the treatment laid down by systematic writers, as depletion, &c., may be considerably modified. The author was inclined to think that general depletion is unnecessary, and even local depletion might frequently be dispensed with, while cautious stimulating treatment would be productive of the best results. Where there is "alarm of the nervous system" bleeding appears especially mischievous, and the practitioner should wait until by sedatives he has calmed "the alarm," before he decides on the propriety of bleeding. The author concluded by mentioning a case to exemplify this:—A young man was seized with rigors and severe dyspnoea; the only physical sign detected was large crepitation at the base of the left lung. He was bled to ten ounces; and from this time, notwithstanding the exhibition of stimulants, sunk with great rapidity. On opening the body there was found great disparity between the local lesion and the general symptoms, the portion of hepatized lung in the centre of the lower lobe not exceeding the size of a small apple: all the remaining pulmonary structure being perfectly healthy.

Dr. BARLOW, having been answered by the author that the blood was buffed and cupped, remarked that he had seen several such cases, where the blood had been in a similar state; the patients seemed relieved the day after the venesection, but sinking ensued afterwards. A peculiarity in the late epidemic was the liability to thoracic inflammation. He regarded it as an influenza attacking the serous membranes, especially of chest, as instanced by the pleuritis, pericarditis, and pneumonia so often present. In answer to a question from the President, he found herpes often present, and without pneumonia. The patients were generally aged, and the disease

proceeded with great rapidity. Dr. Todd's cases merely differed from his as to the universality of the pneumonia.

Dr. GULL did not consider the disease, which is the epidemic of the season, as a peculiar one. He viewed it as a form of influenza, conjoined with herpetic eruptions, pneumonia, or peripneumonia. He would ask the author's meaning of "idiopathic." He thought good would result in many cases if depletion was used on the first day of attack, but if herpes existed with the synocha this must be done carefully.

Mr. CAISEP considered endemic would be a more fitting term than epidemic for the disease, and inquired whether it was confined to the south of London, or whether more diffused? This point could be learnt from the Registrar-General's reports, which, if consulted more frequently, would often lead to more correct conclusions. He believed the cases referred to would not bear depletion after the first day or two, but questioned whether it might not be used early in those cases marked by acute pain, fever, &c., denoting pleuritis, &c.

Dr. TODD remarked that the effect of bleeding and exhibition of tartarized antimony was marked prostration, otherwise he should have felt justified in following up such treatment. He believed, when the disease came on spontaneously, no constitutional affection preceding, depletion may be used, but in the above cases it was most injurious.

Dr. MURPHY considered no case more difficult to treat than inflammation of a vital organ having an atmospheric origin. Did not regard the cases as epidemic; he considered that diseases of such an origin always attacked a mucous surface, and mentioned some to exemplify the above remarks. He alluded to the exhibition of opium, as practised by Drs. Stokes and Graves in inflammation of serous membranes, and to Dr. Latham's observations, that where in pericarditis pain was most intense, the signs of inflammation were often slightest.

Dr. HUGHES believed that such cases often prevailed at this time of the year, and in such bleeding was generally inadmissible. The first case narrated appeared to him to differ from the others, and might have borne more active treatment; other cases got well under stimulants in a few days. Idiopathic pneumonia, — that is, pneumonia independent of any epidemic or miasmatic affection, — was by no means rare, and for such venesection was required. He alluded to the prevalence of epidemic diseases, as phlebitis, erysipelas, &c., at the present time, and to the more frequent appearance of scurvy, and the intolerance of depletion. Idiopathic pneumonia was not unfrequently

I was called one day to see a little girl two years old, who, until the day before, had never had an hour's illness. She had eaten a hearty dinner; and, though she vomited soon afterwards, did not seem otherwise indisposed, and slept well in the night. Immediately on waking in the morning, however, she had a fit, during which she was insensible, squinted, threw her limbs about, and occasionally screamed aloud. She continued very ill during the whole day; was hot and feverish through the night, having occasional attacks of convulsions, in which she stretched out her legs, threw back her head, now and then uttered a word or two, and then relapsed into a state of insensibility. This was her state at half-past 10 A.M.—about twenty four hours after the occurrence of the first fit. I bled her, put eight leeches on her head, employed cold affusion, and gave active cathartics during the day, but without much benefit; and at midnight she was still insensible, rolling uneasily from side to side, boring with her head in the pillow, squinting, and making automatic movements with her mouth and tongue. I now put eight more leeches on the head, which bled profusely, and the bleeding was followed by great diminution in the convulsive movements. About 4 A.M. of the next day, the child fell asleep, and dozed for a few hours. She awoke sensible, and continued so. On my visit in the morning, I found her quiet and sensible, without any sign of convulsion; her face was very pale; her head, before so hot, was now quite cool; her pulse had sunk in frequency, and lost its fullness. An eruption of a papular character had appeared on the hands, arms, inside of the thighs, and slightly on the face. This eruption was the small pox, and the disease ran its course with no unfavourable symptom.

It might not be right, indeed, to attribute the symptoms of disturbance of the nervous system that sometimes occur at the commencement of the eruptive fevers entirely to derangement of the cerebral circulation; but we see similar results produced by other causes, the immediate effect of which is to disturb the circulation and to favour congestion of the brain. Thus, exposure to the heat of the sun, even though the head has not been unprotected from its rays, may be followed by convulsions or other indications of an overloaded state of the brain, and these symptoms may all subside so soon as the excited circulation has recovered its wonted balance. Of this I recently saw a striking instance in the case of a delicate boy, who, when a year old, was taken out by his nurse during one of the hottest days in June. He was quite well and cheerful when he left the house, but, after being out for some time, began to breathe hurriedly and irregularly,

and his nurse, in consequence, brought him home. I saw him about two hours afterwards. He was then restless, fretful, and alarmed; his surface generally hot, and his head especially so, the brain pulsating forcibly through the anterior fontanelle; the pulse too rapid to be counted; the respiration hurried, laboured, and irregular, and there were constant startings of the tendons of the extremities. The child was on the eve of an attack of convulsions, but the tepid bath relieved the heat of skin, and the pulse fell, and the subsultus diminished. Light and sound were excluded from the room; he fell asleep, and awoke in a few hours refreshed and tranquilized, and on the next morning a little languor was all that remained of an illness which had seemed likely to prove so formidable.

Disorders of the nervous system are very frequent during the period of teething. Many of the symptoms which then occur are the direct result of irritation of the trifacial nerve, but others are the immediate consequence of congestion of the brain. Febrile disturbance almost always attends upon the process of dentition, and you can easily understand that when the circulation is in a state of permanent excitement, a very slight cause may suffice to overturn its equilibrium, and occasion a greater flow of blood to the brain than the organ is able to bear.

But I need not occupy more time in pointing out to you the various circumstances which may give rise to active congestion of the brain. Let us now pass to a more minute examination of its symptoms.

Cerebral congestion may, as you have seen, come on very suddenly, its symptoms from the first being alarming, and such as to call for immediate interference; or general uneasiness, a disordered state of the bowels, which are generally though not invariably constipated, and feverishness, may have for a few days preceded the more serious attack. The head by degrees becomes hot, the child grows restless and fretful, and seems distressed by light, or noise, or sudden motion, and children who are old enough sometimes complain of their head. One little boy, nearly three years old, who died of congestion of the brain, had seemed to suffer for some days before any alarming symptom came on, from severe pain in the head. He sometimes awoke crying from his sleep, or when awake would suddenly put his hands to his ears, exclaiming, "Oh, hurt! hurt!" Usually, too, vomiting occurs repeatedly, a symptom on the importance of which I have already insisted, since it is not only confirmatory of others, but also may exist before there is any well-marked indication of the head being affected, and when, though the child seems ailing, there is nothing definite

about its illness. The degree of fever which attends this condition varies much, and its accessions are irregular; but the pulse is usually much and permanently quickened; and if the skull be unossified, the anterior fontanelle is either tense and prominent, or the brain is felt and seen to pulsate forcibly through it. The sleep is disturbed, the child often waking with a start, while there is occasional twitching of the muscles of its face, or the tendons of its wrist.

The child may continue in this condition for many days, and then recover its health without any medical interference; but a slight cause will generally suffice to bring back the former indisposition. You will sometimes see striking instances of this in children while teething; the fever subsiding, the head growing cool, and the little patient appearing quite well so soon as the tooth has cut through the gum, but the approach of each tooth to the surface being attended by the recurrence of the same symptoms.

But though the disturbance of the brain may pass away of its own accord, yet we cannot reckon on such a favourable result occurring, for symptoms such as I have mentioned are often the indications of the organism generally having begun to suffer from mischief which has been going on for months unnoticed, and which is now about to break out with all the formidable characters of acute hydrocephalus. Or should they have no such serious import, yet congestion of the brain is itself a serious, sometimes a fatal malady. Even though no treatment be adopted, indeed, the heat of head may diminish, and the flush of the face grow slighter and less constant, but the countenance becomes very heavy and anxious, the indifference to surrounding objects increases, and the child lies in a state of torpor or drowsiness; from which, however, it can at first be roused to complete consciousness. The manner, on being roused, is always fretful; but if old enough to talk, the child's answers are rational, though generally very short, and, murmuring "I am so sleepy, so sleepy," it subsides into its former drowsiness. The bowels generally continue constipated, and the vomiting seldom ceases, though it is sometimes less frequent than before. The pulse is usually smaller than in the other stage, and there is often irregularity in its frequency, though no actual intermission. An attack of convulsions sometimes marks the transition from the first to the second stage; or the child passes, without any apparent cause, from its previous torpor into a state of convulsion, which subsiding, leaves the torpor deeper than before. The fits return, and death may take place in one of them, or the torpor growing more profound after each convulsive seizure, the child at length dies comatose.

This second stage, if so it may be called, is usually of short duration, and if relief be not afforded by appropriate treatment, death is seldom delayed beyond forty-eight hours from the first fit, though no graver lesion may be discovered afterwards than a gorged state of the vessels of the brain and its membranes, and perhaps a little clear fluid in the ventricles and below the arachnoid.

Occasionally, indeed, death does not so speedily follow these symptoms; but they continue slightly modified for days, or even weeks, and, contrary to all expectation, recovery now and then takes place. This protracted course of the affection is, I believe, met with only in the case of very young children, in whom the congestion having relieved itself by a copious effusion of serum into the ventricles, the yielding skull accommodates itself to its increased contents. The symptoms, though to a great extent the same as before, are now due to the presence of water in the brain—a disease which, though dangerous and often fatal, is yet chronic in its course, and may even admit of cure.

If active congestion of the brain may come on under so great a variety of circumstances, it is evident that there can be no stereotyped rule for its treatment, adapted alike to every case, but that the peculiarities of each must be taken into your most careful consideration. The little girl I have mentioned in whom convulsions preceded the attack of small-pox, would most likely have died from apoplexy if she had not been bled; and it is probable that in her case the depletion might have been carried still further with advantage. On the other hand, the boy who had been exposed to the heat recovered under the tranquillizing influence of a tepid bath, and there can be no doubt but that to him depletion would have been injurious. You must, then, always endeavour to make out what has been the antecedent of the attack. If violent convulsions have come on suddenly, and without apparent cause, in a child until a short time before in perfect health, inquire whether your patient has had the eruptive fevers, especially scarlatina and small-pox, or whether he has been recently exposed to their contagion, and examine the arm to see whether there is a good cicatrix as evidence of successful vaccination. When head symptoms usher in the exanthemata, the danger for a time may be imminent, but you know that if you can relieve the gorged vessels of the brain, and thus ward off the immediate peril, nature herself will come to your assistance, and the outbreak of the eruption will probably be followed by the cessation of the cerebral disturbance. Or it may be that the child has greatly overloaded its stomach, or partaken of some indigestible

THE APPLICATION OF COLD.

attend and watch the effects they pro-

On your second visit, you find that the child, though manifestly relieved for a time from the depletion, is relapsing into a state of coma, or that convulsions, excited for a season, are returning, or that the heat is nearly as hot, and the pulse nearly as accelerated as before, and quite as hard, you may be warranted in bleeding again. Such depletion should be local, and if you can obtain the services of an expert cupper, it will be better, in the case of children above three or four years old, to draw blood by cupping from the back of the neck rather than by leeches. You must not, however, resort to a second bleeding without the most evident necessity, nor without having fully tried all those subsidiary means by the diligent employment of which you will often be able to render further depletion unnecessary. Many of these means, indeed, are so simple that their value is frequently underrated; and it is so often said, almost as a matter of course, "*keep the child quiet and the room cool, and apply cold to the head*," that it does not strike the parents how much depends upon those directions on which the doctor seems to lay so little weight. You must learn, however, that in the treatment of children's diseases none of these things are trivial, but that on their due performance often hangs the life of your patient. Do not content yourselves, then, with merely giving directions, but stay to see them attended to; and do not leave the house till the chamber has been darkened, the cool air is freely admitted, the cold application to the head has been properly adjusted, and all persons who are not actually waiting on the child have left the apartment.

At the outset of the affection the bowels are usually constipated, so that an active purgative is in most cases called for. You may give a dose of calomel and jalap, or the calomel may be administered alone and followed by the infusion of senna, when may be repeated every three or four hours till the bowels act. Should the stomach be very irritable, a larger dose of calomel may be given, and after the lapse of a couple of hours, an attempt may be made to quicken its action by administering a purgative emema, or by dissolving some sulphate of magnesia in the child's drink, and giving it at short intervals. In many cases the disorder will be speedily removed by this treatment, and the child, whose life had seemed to be hanging by a thread, will, in the course of twenty-four hours, be almost well.

But it may happen that though the symptoms are increasing in severity, though the convulsions are unchecked, or coma is evidently coming on, yet the state of the pulse forbids a repetition of depletion; or it may

under eighteen months old, the operation is seldom practicable, and in the case be very urgent, it is necessary to open the jugular vein. At the same time, however, almost all the good effects of local bleeding can be obtained by the application of leeches. You will, however, be far wrong if you estimate the quantity of blood drawn by a healthy child at ten grains, and, if the subsequent symptoms are encouraged, about as much will show its worth. In cases such as these, however, where the blood is too much excited, and too much are attended by danger, you must ordering a saving their regulation of dent, but

even be that you dare not bleed at all, for fear of altogether putting out the life which is in such urgent peril. Fortunately we have another and very powerful remedy in store, which we may try in cases where, otherwise, we should be without resource,—this remedy is the cold affusion. There is something, however, apparently so formidable in taking a child from its bed and pouring a stream of cold water on its head for several minutes together, that you will be wise to explain what you are about to do to the child's friends, and to obtain their consent to the experiment, lest you be compelled by their alarm to desist before you have done any real good. When you have determined to resort to it, the child must be taken out of bed, wrapped in a blanket, and laid upon the nurse's lap with its face downwards, while you pour a stream of water, from a little height, upon its head. The most effectual way of doing this, though one not always practicable, is to place the child under the cock of a water cistern, or the spout of a pump, since you can then continue the stream, uninterruptedly, for five or six minutes. I have seen some remarkable instances of convulsions arrested, and of children roused from coma, by these means; but you must bear in mind that it is an agent of great power, and you must feel the pulse from time to time, during its employment, lest you should, by its long continuance, produce too great a depression of the vital energies.

But besides those cases in which you want to produce a sudden effect by the application of cold with a shock, you often need the sedative influence of cold constantly applied. A very intense degree of cold may be kept up by allowing cold water to drip constantly upon the patient's head, which may be managed, as suggested by Dr. Watson, by means of a sponge and funnel placed a little above the head. This plan is, however, objectionable, on account of its being almost impossible, when it is adopted, to prevent the patient's person becoming extremely wet; and, moreover, it is but seldom that so powerful an agent is needed in the case of children. Few methods of applying cold to the head are better than that which consists in half filling two bladders, with pounded ice or cold water, and placing them, each wrapped in a napkin, the one under, and the other upon the child's head. By pinning the corners of the napkins to the pillow you can secure them from being displaced, and can also prevent the weight of the upper bladder from resting too heavily on the child's head, while all danger of the bed or of the dress becoming wet is avoided.

Supposing, now, by the employment of these means, that you have removed the

imminent danger, and that your patient is going on favourably, still it will be generally desirable to continue treatment for a few days. Free action of the bowels must be secured; for which purpose small doses of calomel may be given two or three times a day, and it may be desirable to accompany each powder with a dose of a mixture containing nitre and sulphate of magnesia. You must, however, bear in mind that you will do less harm by allowing a child to go without medicine, than by forcing on it remedies which it dislikes and resists taking. Calomel, indeed, can almost always be given; and even sulphate of magnesia will very often be taken if mixed with the drink or dissolved in a little veal broth. But how muchsoever a child may resist medicine, the abstraction of blood, a spare diet, a cool and dark and quiet chamber, are remedies always at command, the value of which you must not underrate.

I need not tell you that all cases do not admit of this active treatment. When the disease creeps on with febrile symptoms, occasional vomiting, constipation, loss of appetite, and restless nights, with complaints, if the child be old enough to speak, of pain in the head or limbs, or vertigo, and quick and with a variable pulse, you must treat it gently. If you deplete, it must be only by leeches, and then not in large number, while you trust much to quiet and the careful regulation of the diet. In such cases you will often find a tepid bath night and morning soothe the child and tranquillise the circulation far more than you might have expected from so simple a remedy. Drastic purgatives must be avoided, but small doses of mercury and chalk, or of calomel, either alone or combined with rhubarb, may be given with advantage once or twice a day. Half a grain of calomel, or two grains of the Hydr. c. Cretâ, with four of rhubarb, would be a proper dose for a child a year old. If there be much feverishness and restlessness during the day, you may give a mixture of bicarbonate of potash not quite saturated with citric acid, and containing small doses of ipecacuanha wine, if the stomach be not extremely irritable, and of the tincture of hyoscyamus; the value of which last medicine as a sedative, in the diseases of children, can scarcely be too highly estimated. The addition of a little syrup of mulberries will render the above mixture extremely palatable.

You will sometimes meet with cases of cerebral congestion that appear to have been brought on by exposure to the heat of summer. In such cases it often happens that the bowels are not constipated, but somewhat relaxed. You must not, however, aim at checking the diarrhoea by direct astringents, but should rather pursue

an alternative plan. In most instances, there is irregularity of the bowels rather than diarrhoea; the child having five or six unhealthy motions, for the most part destitute of bile, in the course of one day, and passing the succeeding twenty-four hours without any evacuation at all. In such cases you will find the treatment I have just indicated very useful. If the bowels be much disturbed, half-grain or grain doses of Dover's power may be combined with the mercurial with advantage.

I have not time to enter into more minute details with reference to the management of every variety of active cerebral congestion, but must briefly notice those cases in which the condition exists in what may, perhaps not improperly, be called the passive state. In the paroxysms of whooping-cough the brain becomes congested by the impediment to the return of the blood from the head; and cerebral congestion is induced in a similar manner when the larynx becomes spasmodically closed in the disease known by the name of *Laryngismus Stridulus*. But we likewise meet with cases where the passive succeeds to the active form of cerebral congestion, or becomes more or less gradually developed out of some disorder of the abdominal viscera: or, lastly, where it supervenes towards the close of life in weakly children, whose vital powers have at length become too feeble to propel the blood.

In children who have suffered long and severely from whooping-cough, you often notice a general lividity of the face and lips, a puffed and anxious countenance, and the child makes grievous complaints about its head, while the skin is moist and cool, and the pulse soft, though frequent. Many of these symptoms indicate an overloaded state of the cerebral veins; and if a paroxysm of coughing occur, and the circulation be thus further disturbed, the child may die in a fit, or may sink after some convulsive seizure into a state of coma, which sooner or later proves fatal. In such a case you would find the veins of the brain and its membranes universally gorged with black blood, the choroid plexuses of a deep purple colour, and more bloody points than natural would present themselves on a section of the brain being made. Both the symptoms during life, and the appearances after death, would be only a rather exaggerated illustration of what occurs in all cases of passive congestion of the brain. It is not, however, always easy to explain why this condition comes on. Among the poor you often find it connected with general disorder of the digestive organs, and occurring as one of a long train of ills induced by destitution and neglect. It was so in the case of a *little boy four months old, whom I saw a*

few years ago. His parents were young and healthy people, but they had already lost three children, apparently in consequence of their inhabiting one of those narrow courts so numerous in London, into which the sun never shines, and where young children pine and fade like tender plants shut up in a cellar. When ten weeks old, this little boy was taken with pain in his bowels and diarrhoea, and at three months old he began to suffer from fits, which came on daily, sometimes several times a day. No efficient treatment had been adopted when he was brought to me. He was then as large as most children of his age, and by no means emaciated; but his flesh was flabby, his face unintelligent, puffed and livid, his head hot, the veins of the scalp and eyelids turgid, the eyes prominent, lustreless, covered by mucus, and the pupils not acting under light. He lay in his mother's lap, uttering a constant hoarse moan; his head thrown rather back, and in incessant rotatory motion; his mouth open, his tongue red and parched, and the papillæ in its surface were very prominent, his abdomen was rather full, and his legs were constantly drawn up towards it. He vomited much; his bowels were open three or four times a day, the motions being green and offensive; his pulse was frequent, but without power. In this, as in many instances of passive congestion of the brain, local depletion was resorted to at first, and benefit resulting from it, was repeated more than once. It is not, however, every case that will admit even of local depletion, which, whenever employed, must be practised only with the view of affording relief to the gorged cerebral vessels, not with the idea of curing the patient by bleeding. The greatest attention must in every case be paid to diet and to the state of the bowels, and you will find no means of inducing their healthy action better than the employment of small doses of mercury and chalk two or three times a day. If the child be not weaned, you may find it desirable, if there be constant sickness, to take it almost, or entirely, from the breast for a day or two, and to substitute barley water, sugar and water, or a weak solution of isinglass, with the addition of one-third of milk, which should be given in quantities of one or two teaspoonfuls at a time till the stomach becomes more settled. A stimulating bath, as a hot salt-water bath, or a bath into which a handful of mustard has been put, and in which the child is to be kept for four or five minutes, night and morning, will often be found a valuable auxiliary to the general treatment, as well as very useful, if combined with the application of cold to the head, in cutting short the convulsive seizures.

If the case be associated with much diarrhoea and general impairment of nutrition, the extract of bark, with a few drops of sal-volatile, or of the compound tincture of bark, should be given two or three times a day, and you should not let the head symptoms lead you to keep the child on a low diet. Remember, too, that when nutrition is much impaired, farinaceous food is not usually well digested; you must, therefore, be sparing of arrow-root, and give milk and water, or milk and water with isinglass, or veal-tea. If the broth should purge, as it sometimes does, the white decoction of Sydenham* will form a cheap substitute for isinglass. As the child improves, the ferri-citrate of quinine will be one of the best tonics you can give, and throughout the whole progress of the case you will remember the tonic influence of pure air; and may even find the removal to a healthier spot and a purer atmosphere absolutely necessary to the recovery of your patient.

Lastly, I will just allude to the head symptoms that sometimes for a few days precede death in children who have been long ill. You may in such cases find the veins of the brain turgid, and be disposed to reproach yourselves for not having adopted active treatment. Such self-reproach would be unmerited; the streams have stagnated, because the vital powers were all too feeble to keep them in motion.

DIARRHŒA INFANTUM.

THE work of M. Legendre contains an essay on this subject, founded on the observation of 28 fatal cases. He ascertained that in some instances no alteration whatever of the intestinal mucous membrane could be found, while in the majority of cases enlargement of the intestinal follicles, or their more or less extensive ulceration, constituted all the morbid appearances. These changes of the follicles, too, appear always to precede any alteration of the mucous membrane itself. From these facts he concludes that the diarrhoea of early childhood is at first merely an excessive secretion, and not the result of any appreciable morbid change, and that the anatomical alterations of the digestive canal are the consequences of the diarrhoea, not its cause, whence it happens that their extent is usually proportionate to the severity and continuance of the flux.—*Dr. West's Report on Midwifery*, 1845-6.

* This, the Decoction Blanche of the French Pharmacopœia, is made by boiling half an ounce of hartshorn shavings, and the inside of one French roll, in three pints of water, till reduced to two; when it may be sweetened and given either alone or with the addition of one part of milk.

LECTURES ON ELECTRICITY AND GALVANISM, IN THEIR PHYSIOLOGICAL AND THERA- PEUTICAL RELATIONS,

*Delivered at the Royal College of Physicians,
in March, 1847,*

By Dr. GOLDING BRID, F.R.S.,
Fellow of the College, Assistant Physician to
Guy's Hospital.

LECTURE IV.

*Medical electric apparatus—common elec-
tric machine—mode of exciting—origin
of electricity in the prime conductor—
positive sparks—insulating chair—sub-
stitute for—galvanic trough—mode of
exciting—induced electric currents—
mode of exciting them—primary and
secondary currents—description of elec-
tro-magnetic machine with double current
—with single current.—Employment of
electricity at Guy's Hospital—electric
moxa—rationale of its action—Dr. Ba-
bington's researches.*

I PROPOSE to-day making a few remarks regarding the forms of apparatus employed in the application of electricity and its modifications, to the treatment of disease. Of these, the common electrical machine, and the electro-magnetic apparatus, are the most important: by aid of the former, we obtain small quantities of electricity in a state of high tension, and by the latter we obtain very large quantities of a lower tension, but still far higher than when elicited from the galvanic trough, which, indeed, is now very seldom employed for medical purposes.

You are all well acquainted with the construction of the common electrical machines; but a few remarks in connection with their mode of action may not be regarded as altogether useless.

The electrical machine consists of a revolving cylinder, or plate of glass, submitted to the friction of cushions, or rubbers. It matters very little what form of machine is employed. As a general rule, a plate machine is, for equal size, of far higher power than the cylinder. The arrangements of the latter are, however, simple, and are, perhaps, more easily managed by the uninitiated. There is also an advantage on the score of economy, as old cylindric machines are readily to be procured at low prices, and, as a general rule, a well-worn cylinder is far preferable to a new one. Plate machines are, on the contrary, less common, and consequently must generally be purchased new. Whichever form is em-

ployed, it is useless using a plate with a less diameter than a foot, or a cylinder less than five or six inches.

There is some little tact required to elicit the full power of an electric machine, and, from want of this, you will frequently find some persons quite fail in exciting any amount of electricity even from the best constructed machines. This art is, however, soon acquired. When the machine is required for use, the prime conductor and rubbers should first be removed, and the machine placed sufficiently near a good fire to become completely dry and warm. The surface of the glass should then be slightly rubbed with a piece of tow or flannel soaked in olive-oil, any adhering black spots from old amalgam being scraped off. By means of a dry and warm linen cloth, the oil should then be wiped away, and the polished surface of the glass is thus left clean and free from moisture. The cushions, if covered with amalgam, are then to be rubbed with a piece of brown paper, so as gently to remove the oxidised surface; but if not sufficiently covered, a little amalgam (made by melting together zinc two parts, tin one part, with mercury six parts, made into a paste by triturating it in a mortar with a little lard) must be rubbed into the surface of the cushions with the handle of a knife, or piece of smooth wood. The silk flaps are to be wiped clean, and the rubbers adjusted to the plate or cylinder. On revolving the latter, a rustling noise will be heard, accompanied, in a darkened room, by vivid flashes of blue light, whilst a strong phosphorus-like odour of *ozone* becomes perceptible. The prime conductor is next to be replaced, taking care that its insulating support is perfectly dry, and even slightly warm: the instrument is then fit for use. You will, however, not unfrequently find, that although you may have taken the precaution to connect the rubber with the table or floor by means of a metallic conductor, still that little or no electricity is obtained on revolving the glass. This will generally be found to depend upon the badly conducting table, or floor, by which a sufficiently ready means is not afforded for the complete restoration of the electric equilibrium of the rubber, when destroyed by the friction of the revolving cylinder or plate against its surface. This difficulty is best overcome, in London and large towns, by connecting the rubber, by means of a long copper wire, with a branch of the leaden pipes through which the house is supplied with water. By this plan a ready communication is afforded by a good conductor with the great reservoir of electricity—the earth.

Having thus got the machine in good action, on revolving the cylinder or plate, and presenting the hand or a piece of metal

towards the prime conductor, a series of vivid sparks, attended with a loud snapping noise, will pass between them. In this arena, I felt that any remark connected with the theory of the excitation of electricity by the machine would be quite misplaced, as I feel that all I have the honour of addressing must be most fully acquainted with every thing pertaining to this branch of physics. There is, however, a popular error so generally believed, that I must venture to allude to it; the error consists in regarding the electricity of the prime conductor as derived from the revolving glass, the latter being regarded as pumping electricity from the rubber, and thence from the earth. Now the fact is, that not an atom of positive electric matter leaves the glass to pass to the conductor. The cylinder or plate, rendered positive by friction against the rubber, merely acts upon the electricity naturally present in the prime conductor by *induction*, decomposing it into the component elements, attracting the negative fluid, which, accumulating in a state of high tension, or elasticity, dart off towards the cylinder to combine with the positive fluid free on its surface, reconstituting the neutral compound: the prime conductor is thus left powerfully positive, not by acquiring electricity from the cylinder, but by the abstraction of its own negative element. Again, the sparks which appear on approaching the hand to the conductor are often called *positive sparks*, when, in truth, they are nothing of the kind, being, indeed, a series of luminous discharges formed by the union of the negative electricity of the body, which is held near the conductor, with the free positive electricity of the latter.

In addition to the electrical machine itself, a pair of directors, or rods of brass, furnished with balls of brass and glass handles, together with a few yards of common copper bell-wire, or brass chain, will be required to connect the patient with the machine, or to convey the discharge of a jar through his body. The jar itself need not have more than a square foot of coated surface, and indeed one much smaller is often sufficient.

There is one piece of apparatus which is very essential, being in almost constant requisition.—I mean the well-known chair with glass legs, on which a patient may sit and be completely isolated from all electrical communication with the earth. This is an expensive, bulky, and fragile contrivance, and hence is the most inconvenient of all the electrical appliances. I advise you, however, not to trouble yourselves with this very clumsy chair, which you will generally find at the instrument makers; as any ordinary chair can be at once rendered most effectual in insulating any person, by merely

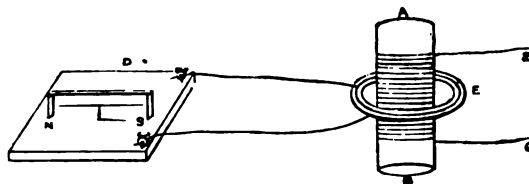
placing each of its four legs in a thick cup of glass. These may be procured at any of the glass shops by merely asking for four thick round glass salt-cellars in the rough state in which they are sent from the glass-house before being engraved or cut. Thus, at the expense of a couple of shillings, any comfortable chair may be converted into an excellent insulating support.

Galvanic electricity, or that excited by chemical action, is sometimes called in requisition. There are, however, many serious inconveniences attending its employment; and not the least of these, is the bulky and unmanageable form of apparatus required for its excitation in a state of even moderate tension. On this account this form of electricity is now seldom employed, and in my own practice I confess I never use it; for the electricity of dynamic induction is so much easier excited, and, being the same in essence, has always been, so far as my own experience has extended, substituted for it. Whenever you wish to employ this form of electricity, you will find no apparatus more convenient for its excitation than the well-known Cruikshank trough, which consists of a wooden trough, having double plates of copper and zinc fixed in at short intervals from each other. These plates need not be more than two inches square, and a trough containing three or four dozen pairs will be sufficient for all purposes. The best exciting fluid is very dilute hydrochloric acid, made by mixing one part of the acid with thirty of water. When the acidulated fluid is poured into the trough, you must take care that it does not rise to the top of the plates by about one quarter of an inch. In using this apparatus, a piece of copper wire should be twisted at one end into a loose coil, and plunged in the first cell of the battery, another similar piece being immersed into the last cell. These wires become the conductors, or *electrodes*, or, in other words,

their free ends represent doors, out of which currents of the two electricities escape; and, by placing them in contact with the surface of the body, previously moistened, to make it as good a conductor as possible, the union of the two electric elements will take place in the tissues they traverse. Bearing in mind the facts I announced to you in connection with the course traversed by currents, with the development of certain phenomena of nervous irritability and muscular contraction, you will at once see the importance of being able in an instant to ascertain the direction of the two currents when excited by the action of the acid on the zinc and copper plates. This you can at once discover by looking at the trough, and remarking that the positive current escapes from the end towards which all the zinc plates look, and the negative current from the other end.

The great drawback to the utility of this mode of exciting electricity is the trouble of getting the apparatus in proper order, the irregularity of the current in regard of strength, its tension and quantity rapidly sinking from the first moment of adding the acid; and, lastly, the damage inflicted by the latter when ejected from the trough from too violent an effervescence, or from its being accidentally spilled.

The next mode of exciting electricity is of late discovery,—one of the many contributions to physical science for which we are indebted to the talents of our illustrious countryman, Dr. Faraday. It furnishes us with large quantities of electricity of tolerably high tension, and possesses advantages for medical purposes which no other mode of exciting electricity affords. To illustrate the mode of exciting electricity by induction in the simplest manner, I will connect this piece of copper wire wound into a circular coil with the terminal screws of a galvanometer. I have



N S, The magnetic needle of the galvanometer, D.

Z, The circular wire coil connected with the wires of the galvanometer.

A B, The wooden cylinder covered with wire, the ends of which, Z, C, are connected with the terminal plate of a battery.

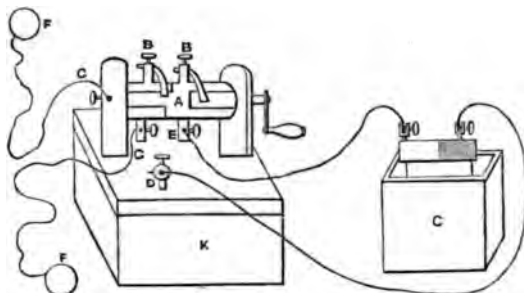
here a wooden cylinder, round which is wound a piece of insulated wire, so as to form thirty or forty convolutions, and will place this in the centre of the coil connected with the galvanometer. The needle of the instrument is now at rest; but observe what

occurs the instant I connect the ends of the wire coiled on the wooden cylinder with the zinc and copper plates of a single galvanic battery. In an instant the needle darts off, as if acted upon by some tangential force; and, after several violent oscillations through

a considerable arc, it slowly attains a state of rest, several degrees out of the magnetic meridian. Now, as the wire on the cylinder had no connection whatever with that of the coil, it is obvious that the battery merely acted as an exciting agent in disturbing the normal electric equilibrium of the wire, causing the electricity to circulate in the form of current. This current, you will observe, is of momentary duration, and is excited only at the instant that the battery current first traverses the conducting wire. But now, the needle being perfectly quiet, I will suddenly break contact with the battery, and once more the needle rushes out of the meridian line, and traverses a considerable arc, but in a direction opposed to that in which it travelled when connection was in the first instance made with the battery. Like the former current, this is only of momentary duration. From this experiment we learn, that, when a current traverses a wire, it induces or excites another current in any conductor held parallel to it, a second being excited the instant the first current ceases to traverse the wire. These currents are respectively named primary and secondary, and are always opposed in direction, the primary current moving in an opposite direction to the battery or exciting current. If, instead of using a battery current as an exciting agent, I had plunged a magnet into the centre of the coil connected with the galvanometer, the electric equilibrium of the wire would in like manner be disturbed, a primary current being induced on first introducing the magnet, and a secondary one on withdrawing it. It is obvious that if, by any contrivance, contact

with the battery could in the first example be rapidly made and broken, as, in the second, the magnet be as quickly immersed and withdrawn, we should procure a rapid series of currents moving alternately in opposite directions; and on this is founded the construction of all the magneto-electric and electro-magnetic machines.

Numerous forms of electro-magnetic machines have been suggested for medical purposes, and it is really not a matter of any importance which you employ, provided care be taken to have the one you have chosen so arranged as to allow of a sufficiently copious development of electricity. As we have seen that in all such contrivances a small voltaic current furnishes the initial force, it is important to have this completely under command, and to be able to make and break contact with the inducing apparatus, with the utmost facility and rapidity. You may break contact with the battery, if you please, by means of a ratchet or cog-wheel; but this is often inconvenient, as it renders the services of an assistant necessary. On this account an automatic apparatus is always to be preferred. I believe I proposed the first of these several years ago in the *Annals of Philosophy*; but this, as well as all others I have seen, are much inferior to one constructed by an ingenious philosophical instrument-maker, Mr. Neeves, of Broad Street, Holborn, and this is the only one I ever now employ. It possesses the advantage of simplicity, facility of employment, quantity and intensity of the inductive electricity, together with the additional recommendation of low price.



- A, The wooden bobbin, on which is wound the double coil of wires.
B, C, The screws connected with the ends of the fine coil, with conductors affixed.

- D, The apparatus for breaking battery contact.
E, Single pair of plates (Smee's arrangement) connected with the screws, F, G.

This consists of a wooden bobbin, with a hollow axis. About thirty feet of thick insulated copper wire are wound on it, and over this about a thousand feet of very fine insulated copper wire, the ends of which are soldered to a couple of binding screws

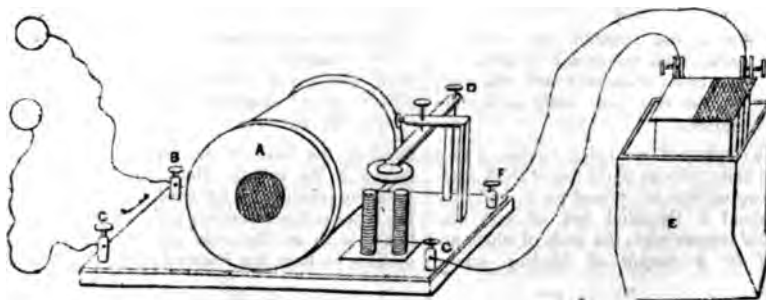
fixed in the base of the instrument: the former is the coil in which the initial or *inducing* current is intended to circulate; the latter is the secondary coil, where electricity is to be disturbed and thrown into motion, to form the *induced* current. One

of the ends of the primary thinner coil is connected with the zinc plate of a single battery; the other end of the wire surrounds a small horse-shoe of soft iron, and is then soldered to the lower end of a bent rod of brass, whose upper end carries a small screw furnished with a platinum point, which presses on a plate of the same metal fixed to a transverse bar of thin brass, having at the end suspended over the poles of the horse-shoe a disk of soft iron. When the fixed end of this bar is connected with the copper or silver plate of the little battery, the disk of iron is rapidly attracted by the ends of the horse-shoe, which acquire a powerful magnetic force. In an instant, the contact between the platinum wire and plate being broken, the current is arrested, and, the horse-shoe losing its magnetism, the elasticity of the brass bars causes it to fly up and again bring the platinum point and plate in contact, when the same series of alternate attractions and repulsions occur. In this way you see the brass bar rapidly vibrate, and produce a loud humming musical sound, varying in pitch according to the amount of amplitude of the vibrations, and contemporaneously, a rapidly succeeding series of induced currents traverse the coil of fine wire. If I now grasp in my hands a pair of brass cylinders connected with the ends of the fine coil, a series of currents of high intensity, and rapidly succeeding each other, rush through the arms, producing a most painful and nearly intolerable sensation. You observe that a bundle of iron wires is placed in the hollow axes of the bobbin. The use of this is obvious enough, for these wires becoming a series of powerful temporary magnets add their inducing power to that of the initial current, and greatly increase the tension of the excited electricity. Indeed, by withdrawing the bundle of iron wire, you may diminish most materially the severity of the shocks produced by this instrument, and thus enable you very conveniently to adjust their force according to the case under treatment.

If you reflect for a moment on the principles on which the construction of this very convenient arrangement is founded, you will

at once see that you cannot obtain by its aid a series of positive and negative currents in a definite direction; that neither of the connecting wires are capable of being regarded as negative and positive. This you can readily understand from the results of the experiment showed you just now with the galvanometer. Each of the conducting wires of this instrument convey alternately currents of opposite characters. The wires, at the rate the bar is now vibrating, convey about 500 currents per minute, each being alternately negative and positive. To demonstrate the truth of this statement I have here on a glass plate a piece of paper moistened with a mixed solution of starch and iodide of potassium. I place on it the platinum extremities of the conducting wires of the electro-magnetic apparatus; the currents pass, electrolytic action occurs, the iodine is severed from the potassium, and being set free, stains the starched paper. On examining the paper you will find the purple stain of iodide of amidine at both points where the platinum wires touched the surface. Now as the iodine is invariably liberated at the place where positive electricity enters the body containing it, we have a proof of the accuracy of the statement I made, that positive and negative electricity were alternately evolved at both wires. On this account, however useful this apparatus is when we want the mere stimulant action, the simple shock of the electric agent, yet it is likely to fail in many cases of paralysis, in consequence of our not being able to transmit by its aid the positive current in the direction of the nervous ramifications.

The more elegant and elaborate magneto-electric machine, especially the very effective and powerful one of Mr. Clark's construction, may of course be substituted for the electro-magnetic apparatus I have described. The advantages it presents of being always ready for use, and requiring no initial voltaic current to set it in action, are not, however, I think by any means sufficient to compensate for its expense, and the readiness with which it is disarranged, especially when in the hands of the uninitiated.



Description of figure on preceding page.

A, the revolving cylinder, with slips of brass inlaid, on which the springs *a a* press.
 C, the battery, connected by wires with the screws *D, E, F, F*; the conductors, connected with the screws *G G*, which are in communication with the fine coil in the box *x*.

To render the electro-magnetic current available where it is required to be transmitted in a definite direction, — where, indeed, we want the currents separated as we get them in the voltaic or galvanic battery, without the serious inconvenience attending the use of these pieces of apparatus, — some modification of the electro-magnetic machine is required. After devoting some attention to the subject I contrived the machine before you, which answers the purpose most completely. It consists of the double coils of wire fixed in a wooden box, on the lid of which is placed a wooden cylinder, capable of revolving between two uprights by means of a proper handle. This cylinder is furnished with two slips of brass fixed in the wood at each end, and connected with the metallic axes, by which the cylinder is supported in the brass collars of the uprights. The slips of brass are placed so as to alternate with each other at either end of the cylinder. Two electric brass springs, supported by pillars of that metal, press on the cylinder at either end. The ends of the thick wire of the coil concealed in the box are connected, — one to the end of one of the supports of the cylinder, the other to a binding screw fixed in the lid. The zinc and silver plates of a single battery are then connected with this screw, and with the supports of one of the brass springs. On revolving the cylinder, contact with the battery is of course made or broken according as the slip of brass or the wooden portion of the cylinder passes under the brass spring. You know that with each of such unions and ruptures of contact, an induced current circulates in the fine coil of wire in the box. The ends of this coil are soldered to the second upright, and the support of the second spring. The pieces of brass being properly arranged, it follows that one kind of current can alone traverse the conducting wires fixed to the supports connected with the fine coil. To prove this, I will let these conductors, terminated as before with platinum ends, rest on the iodized paper. On turning the cylinder, the iodine is, as you see, set free at one end only. I know, therefore, that the positive electricity escapes by this wire, and the negative by the other. Hence by this instrument we have succeeded in detaining separate currents, although we have lost the great convenience of the automatic movement of the other apparatus.

I purpose, next, to direct attention to the results which have followed the employment of the different modifications of electricity in the treatment of disease. In doing this I do not intend to occupy your time by a tedious reference to all that has been previously published on this subject in this country and on the continent. Such records are familiar to every physician, and within the reach of every body who will take the trouble of referring to them. I am more anxious to avail myself of this opportunity of presenting to the members of the College the results which have fallen under my own personal experience.

Electricity has been by no means fairly treated as a therapeutical agent, for it has either been exclusively referred to when all other remedies have failed, — in fact, often exclusively, or nearly so, in helpless cases, — or its administration has been carelessly directed, and the mandate, "Let the patient be electrified," merely given, without reference to the manner, form, or mode of the remedy being for an instant taken into consideration.

Conscientiously convinced that the agent in question is a no less energetic than valuable remedy in the treatment of disease, I feel most anxious to press its employment upon the practical physician, and to urge him to have recourse to it as a rational but fallible remedy, and not to regard it as one either expected or capable of effecting impossibilities. I again say, I shall advance nothing but what has been repeatedly tested under my own observation, purposing to lay before you the results of many years' careful clinical experience in this matter in the wards of Guy's Hospital, and hope to make out a strong case in favour of this too much neglected remedy.

In the autumn of 1836, the authorities of the hospital thought fit to set apart a room for the administration of electricity. Clinical clerks were appointed to record the cases, and the whole was placed under my control, and remained in my hands during eight years; and since my other duties compelled me to give up this charge, my successor, Dr. Gull, has watched over it with great zeal and assiduity. In the case-books of this department of our hospital is recorded a large mass of clinical experience on the subject before us, — larger, I presume, than exists anywhere else, — and from these records I propose to cull such matters as appear of the greatest interest and highest practical importance.

Before alluding to the different diseases in which I have employed electricity, I am anxious to allude to one special application of it which has lately occurred to me, and which I think will not be deemed uninteresting and unimportant. We often wish,

and indeed require, to produce a persistent discharge from some part of the body, and where an issue or seton, or discharge from the moxa or actual cautery would be desirable. Now the knife for the issue, the needle for the seton, and the ignited tinder or red-hot iron, all have their terrors for timid patients, and there is often the greatest unwillingness to induce patients to use such means. Now I have to offer to the notice of the profession a mode of inducing persistent discharge free from all these objections, in the form of what I beg to call the *electric moxa*. It was long ago observed by Humboldt, and afterwards by Graepengiesser, that when a simple galvanic arc was applied to a blistered surface, the part opposed to the most oxidizable metal was more irritated than that to which the negative plate was applied. In applying such a simple arc to the treatment of paralysis, I was struck with the remarkable effects produced, and such a combination of its results induces me to propose the following ready mode of establishing a discharge from the surface of the body. Order two small blisters, the size of a shilling, to be applied to any part of the body, one a few inches below the other; when the outicle is thus raised by effused serum, snip it, and apply to the one from whence a permanent discharge is required a piece of zinc foil, and to the other a piece of silver; connect them by a copper wire, and cover them with a common water dressing and oiled silk. If the zinc plate be raised in a few hours, the surface of the skin will look white, as if rubbed over with nitrate of silver. In forty-eight hours a decided eschar will appear, which (still keeping on the plates) will begin to separate at the edges in four or five days. The plates may then be removed, and the surface where the silver was applied will be found to be completely healed. A common poultice may be applied to the part, and a healthy granulating sore, with well-defined edges, freely discharging pus, will be left. During the whole of this process, if the patient complains of pain at all, it will always be referred to the silver plate, where, in fact, the blister is rapidly healing, and not the slightest complaint will be made of the zinc plates, where the slough is as rapidly forming. A very interesting physiological phenomenon is observed in making an issue by these means. If the plates be applied to a limb, and on different places, contraction of the subjacent *muscles* will always be observed most severe when the patient is in the act of falling to sleep; and in a few cases these sensations have been sufficiently annoying to induce the patient to untwist the wires fixed to the plate, when by inter-

rupting the current these feelings ceased. But if the plates were applied to opposite sides of the body, as when on the chest to different sides of the mesial line, no contractions whatever occurred. This admits of explanation by a reference to the fact of the nerves not crossing the middle line of the body.

I have now repeatedly used this mode of exciting a purigenous sore on different parts of the body, both in hospital and private practice, and it has never in any instance failed; I strongly recommend it to your notice, where it is important to avoid the use of means more alarming to the patient. I certainly know of no other plan by which an equally effective discharge can be obtained, except by the use of the moxa or actual cautery.

As scientific and philosophic physicians, we must, however, go a step further, and inquire into the rationale of this process: after some little investigation, I traced it, as indeed was to be expected, to the principles laid down in my second lecture, when endeavouring to show how small an amount of electric force was sufficient to tear asunder the elements of many compounds.

In fact the saline ingredients of the fluid effused on the surfaces of the blisters are decomposed, the sodium of the common salt being set free at the silver surfaces, which by exudation, of course, rapidly become soda: the chlorine is evolved at the zinc surface, forming chloride of zinc. An electric current is then traversing from the zinc through the interposed tissues to the silver, and back again to the zinc, and its actual existence may be demonstrated by separating the wires belonging to the plates and connecting them with a galvanometer. I believe, therefore, the sore is really formed by the escharotic action of the chloride of zinc thus produced, and the reason why the patient feels none of the intense pain so characteristic of the caustic energy of the zinc salt, is found in its acting in infinitely small portions at a time upon the skin,—indeed, in what may be correctly enough termed a nascent state. To prove this is not mere hypothesis, I have placed on the table a vessel containing a weak solution of common salt, having a tube closed at the bottom with an animal membrane, and also containing salt and water immersed therein: a piece of silver was, some hours ago, placed in the outer vessel, and a piece of zinc connected with it in the tube. The two pieces of metal are thus placed under conditions nearly parallel, if not identical, to those in which they are when used to form the moxa. If the fluid in the inner tube be tested by adding to one portion of it ferrocyanide of potassium, and to another some ammonia,

the occurrence of a white precipitate in either case will at once attest the presence of chloride of zinc in solution.

Conversing on this subject with my friend and colleague Dr. Babington, whose profound erudition and high scientific attainments are familiar to us all, he mentioned to me some analogous experiments, performed by him as far back as 1827, on the action of weak currents on muscular flesh: he also kindly placed in my hands the notes he had preserved of his researches. Of his many ingenious experiments, the following bears most on the subject of my electric moxa:—The doctor took two slices of muscular flesh, placed one between two plates of glass, the other between plates of copper and zinc, binding them together with wire;—in the course of a few days, the weather being warm, the flesh between the glasses began to putrify, and soon afterwards was full of maggots, whilst that between the metallic plates remained free from putrescency. A remarkable change had, however, occurred, for, on taking off the plates, the side opposite to the zinc plate was hard as if it had been artificially dried, whilst that opposed to the copper had become covered with a transparent substance resembling jelly. In fact, the result of the experiment evidently was, that the chloride of sodium existing in the flesh had become decomposed; the zinc had been acted on, and a dry hard compound of chloride of zinc and albumen formed on one side of the piece, whilst the soda set free on the other side had contrived with protein elements to constitute an albuminate of soda in the form of a semi-gelatinous mass. This experiment on dead matter, compared with my own on the living body, affords a beautiful illustration of the wonderful influence of life in modifying chemical action. In the dead flesh mere chemical changes occurred; in the living tissue the principle of life interfered on the one hand in resisting the solvent influences of the soda set free at the silver surface, whilst that same principle from the influence of the irritation of the chloride of zinc formed at the zinc surface, excited inflammation, and by thus setting up a barrier against the further progress of the chemical action, cut off from the system the skin acted on by the acrid salt, and allowed its separation in the form of a slough.*

PROGRESS OF FEVER IN GLASGOW.

WE regret to find that fever is on the increase in Glasgow, and that no sufficient accommodation is yet provided. Up till Wednesday, the 26th current, there were 417 cases on the lines of the District Surgeons of the poor alone. On that day there were 38 cases of fresh lines!

* Errata in last lecture:—Page 891, column 1, last line, after electric, insert current; page 894, last line, for fibrils, read febrilis.

THE CROONIAN LECTURES,

Delivered at the College of Physicians, in February, 1847.

By GEORGE BUDD, M.D. F.R.S.

Professor of Medicine in King's College.

LECTURE II.

THE last time I had the honour of addressing you, I called your attention to the softening of the coats of the stomach that takes place after death, when this happens suddenly, in the midst of health, and soon after a full meal; while digestion is actively going on. I shall now speak of softening of the stomach, having the same characters, that occurs under other and very different circumstances.

Cruveilhier has distinguished two kinds of softening, both occurring principally in the great end of the stomach, which he terms, respectively, the *pulpy* softening and the *gelatinous* softening, according to the appearance of the softened tissues. The pulpy softening he supposes to occur after death, from the action of the gastric juice; the gelatinous softening, during life, from a peculiar morbid process. Rokitsanski distinguishes three varieties of softening in this portion of the stomach, according to the colour of the softened tissues; and two of these he supposes to occur during life as the effect of disease.

An attentive examination of these so-called varieties leaves no doubt in my mind that they are all produced after death, and by the same agent,—namely, the gastric juice; and that the differences of transparency and colour in the softened tissues, to which so much importance has been attached, result mainly from variations in the quantity of blood in these tissues at the time of death.

In illustration of this, I may call your attention to a stomach on the table, which I obtained, two days ago, from a man who died of phthisis in King's College Hospital. The stomach was much congested at the time of death, and towards its pyloric portion, the edges of the folds, which are the only parts where the mucous membrane is softened, appear as brown lines or bands. The change is exactly like that represented in this plate of Cruveilhier, which he gives as an illustration of the *gelatiniform* softening, except in the darker colour and in the want of transparency of the softened tissues; which are perfectly explained by the greater quantity of blood which the tissues contained at the time of death.

The essential characters of the change are—

1st. A softening of the mucous membrane, usually over a considerable space in the great end of the stomach, and *along the edges of the folds*, extending from this towards the pyloric end; parts which, for reasons I have already assigned, are most exposed to the action of the dissolving agent.

2d. A blackening of the blood in the tissues so acted upon, giving various shades of brown to the softened tissues when much blood was contained in them at the time of death.

A third character of the change is, that the softened or digested tissues have an acid reaction; and that they putrify less readily than other parts, in consequence of the antiseptic properties of the gastric juice.

These characters will serve in most cases to distinguish the digestion of the stomach that occurs after death, even in its slighter degrees, from every other change. If the coats of the stomach at the time of death were empty of blood, they are rendered, in the process of softening, more or less transparent or *gelatiniform*, as all albuminous tissues are when acted upon by the gastric juice, or by acetic acid; if, on the contrary, the softened tissues contained much blood or fat, they became brown, and opaque, or paste-like.

As the digestion proceeds, the mucous membrane is rendered thinner and softer, until it resembles a thin layer of mucus or paste; the other coats of the stomach are next dissolved and removed, in succession, from within outwards, until a ragged aperture is made, through which the contents of the stomach escape into the peritoneal sac. The process of digestion may still go on, so that the side of the spleen contiguous to the stomach may be dissolved, or the diaphragm at that part may be dissolved quite through, and the contents of the stomach pass into the cavity of the chest.

It occasionally happens, as I have before remarked, that some liquid from the stomach regurgitates, after death, through the cardiac orifice, and causes similar changes in the lower end of the oesophagus. From the supine posture of the body after death, the back part of the oesophagus is the part most soaked in the liquid, and in which, consequently, the highest degree of softening usually exists.

The conditions necessary for this *post-mortem* digestion of the coats of the stomach are, 1st, that the stomach should contain some gastric juice at the time of death; and 2d, that it should be kept for some hours afterwards at the temperature required for artificial digestion.

The first condition is very generally fulfilled in persons who are killed by accident, in the midst of health, and soon after a meal; and up to this time it has been commonly supposed that digestion of the sto-

mach after death occurs in a high degree only under such circumstances.

It has, indeed, been generally taught that gastric juice is only secreted while food is in the stomach, and that it only exists in the stomach for a few hours after a meal,—and this is, no doubt, true for persons in health. Dr. Beaumont, during the long time that he had St. Martin under his daily observation, never found any gastric juice in his stomach when it was empty of food; at such times the fluid which moistens the inner surface of the stomach is not acid, and has no peculiar solvent power.

But in certain diseases, gastric juice is secreted when the stomach is empty; or, at least, it exists in the stomach unmixed with food, and long after food has been taken; and in persons who die of such diseases, digestion of the stomach is often found in as high a degree as in persons killed by accident, in the midst of health, and soon after a meal; and in many of these cases the softening of the stomach may be predicted with tolerable certainty by a peculiar train of symptoms, which result, I imagine, from the presence of free gastric juice, or its acid, in the otherwise empty stomach.

This occasionally happens in cases of simple ulcer of the stomach. On the table are two preparations exhibiting this disease in conjunction with entire destruction of the mucous membrane in the great end of the stomach, doubtless produced by the gastric juice. One of these preparations has been long in the Museum of King's College; the other is that of a stomach which I obtained in the month of January, in very cold weather, from a man who died under my care in King's College Hospital, from perforation of the stomach caused by the ulcer.

In cases of simple ulcer, pain of the stomach is sometimes felt when the stomach is empty of food; and, with thirst and an impaired appetite, there are frequently sour eructations and occasional vomiting of a sour fluid. These symptoms seem to depend mainly on the presence of gastric juice, or its acid, in the otherwise empty stomach. It is easy to conceive that the flow of the juice may be excited in the empty stomach by the irritation of the ulcer, or its secretions, just as it was in the experiments of Spallanzani by the mechanical irritation of pebbles, or of bits of sponge or glass.

Digestion of the stomach in a high degree is found much more frequently in persons, and especially in women, who die of phthisis. Before you, lie two preparations in which this is well exhibited;—the mucous membrane in the great end of the stomach is completely destroyed, and the branching vessels in the submucous areolar tissue are exposed, and are very conspicuous from the blackening

of the blood they contain. These stomachs were obtained from men who died of phthisis in King's College Hospital; one of them last summer, the other about two months ago. It now and then happens that in persons who die of this disease, the muscular and serous coats in the great end of the stomach are found dissolved, as well as the mucous coat; and the stomach, when removed, exhibits an aperture on its great end, with ragged flocculent edges, as when death happens suddenly after a full meal; and, as in these latter cases, the absence of any marks of inflammation of the peritoneum or of the coats of the stomach, as well as the peculiar characters of the change itself, shew clearly that the softening takes place, after death, from the action of the gastric juice.

This digestion of the stomach has been well described by Louis, who was not, however, aware of its real nature. In his elaborate work on phthisis, he states that he observed it in about one-fifth of the persons he examined who died of this disease.

The persons in whom it is found, have generally had, for some weeks, and often for several months before death, much disorder of the stomach; pain and tenderness at the epigastrium, loss of appetite, thirst, frequent vomiting, (the matters vomited being slightly acid,) or frequent nausea.

This gastric disorder, which is extremely common in the advanced stages of phthisis, exhausts the strength, and sometimes attracts more of the patient's attention than the primary disease of the lung. The frequent occurrence of the peculiar softening of the coats of the stomach, caused by the gastric juice, after death, in the persons in whom it has existed, shows that this disorder is associated with increased secretion of gastric juice, or with the presence of gastric juice, or its acid, in the otherwise empty stomach. It is not improbable that, in these cases, the flow of gastric juice in the empty stomach is excited by irritation of the lung, just as it was excited by Spallanzani, in his own person, by voluntary irritation of the fauces.

The most efficient remedy for this gastric disorder is *Liquor Potassæ*, or some other alkali, which neutralizes the gastric acid, and thus renders the fluid inert. Fifteen drops of *Liquor Potassæ*, or twenty grains of *Bicarbonate of Potash*, three times a day, hardly ever fail to stop the nausea, and to allay or much mitigate the pain. The vomiting and pain may likewise be stopped, in the great majority of cases, by vegetable astringents. The mildest and most efficient is an infusion of log-wood, which I have long been in the habit of using, in doses of ʒj. three times a day, to quiet this gastric disorder, as well as to arrest diarrhoea.

I learnt the efficacy of these medicines in

this disorder from experience, long before I had formed any supposition as to the nature of the disorder itself.

3d. Digestion of the stomach after death frequently takes place, also, in persons who die of inflammatory diseases of the brain. These diseases give rise to the same kind of secondary gastric disorder as tuberculous disease of the lung—viz.: frequent vomiting or nausea; and, unless these symptoms are masked by delirium or blunted sensation, pain at the stomach, thirst, and loss of appetite. The frequent occurrence of softening of the stomach after death in these diseases shows, as in cases of phthisis, that this gastric disorder is associated with increased secretion of gastric juice, or with the presence of gastric juice, or its acid, in the otherwise empty stomach.

The cases are strictly analogous in this respect to the instance which I related in my last lecture, in which the highest degree of digestion of the stomach and diaphragm was found in a man who died from fracture of the skull after an unusually prolonged fast.

4th. Softening of the stomach of the same kind is also often met with in persons who die of typhoid fever, especially, I believe, where death has been preceded by delirium, or other serious disorder of the functions of the brain.

In some instances in which this happens there has been pain and soreness of the stomach, and vomiting, for some days before death; but generally the gastric disorder is masked by the delirium or the blunted state of sensation which usually exists in severe forms of fever.

When softening of the stomach occurs in persons who have died of fever, the softened tissues have generally a rust-colour, or brownish tint, from the circumstance of the blood remaining fluid, and gravitating to the lowermost parts of the stomach, where the softening takes place.

5th. The same change is occasionally met with in persons who die of cancer of the uterus, or of peritonitis, or of other diseases of the abdominal viscera, which lead to secondary functional disorder of the stomach. Where it occurs in conjunction with chronic diseases, as phthisis or cancer of the uterus, which do not cause delirium or coma, it has generally been preceded for some time before death by the peculiar gastric disorder which I have described. When it occurs in conjunction with inflammatory disease of the brain, or fever, which destroy or pervert sensation, and which kill quickly, the symptoms of gastric disorder are, of course, less marked, and are often altogether absent.

In any case, the degree of the softening bears no necessary relation to the severity or duration of the gastric disorder. The

gastric disorder may have existed for months, but the stomach may chance to be empty at the time of death, and no softening of its coats take place. And, on the other hand, where there has been no gastric disorder, or only a slight degree of it, a considerable quantity of gastric juice may be poured out just before death, and the highest degree of softening take place.

These facts have been noticed by Louis, Cruveilhier, and others, whose attention has been directed to this subject; and, as they supposed the softening to be the result of disease, and to occur during life, they could only explain them by supposing that at times this disease runs a very rapid course, or that it is *latent*: in other words, that it gives rise to no appreciable symptoms.

All these difficulties are removed by the explanation which I have offered: namely, that the softening occurs, in all cases, after death; and that the degree of it depends, if the conditions of temperature, &c. be alike, on the quantity of gastric juice in the stomach at the time of death, and not at all on the duration or extent of the gastric disorder.

The same kind of gastric disorder not unfrequently occurs, especially in nervous women, from disordered menstruation, the irritation of gall-stones, or some other cause of disturbance, and after continuing in a severe form for weeks, or even for months, subsides, on the removal of its exciting cause, or on improvement of the general health, and the power of the stomach is perfectly restored. No weakness of digestion or other symptom remains to show that the organ has been damaged in its structure.

But it is in infants who die from the age of three or four months to two years that softening of the stomach in a high degree occurs most frequently. In them, different portions of the intestines are frequently found softened as well as the stomach; and the softened tissues, from the state of anæmia in which infants usually die, are generally semitransparent, or *gelatiniform*.

The change is found very commonly in infants who die from hydrocephalus or phthisis, and occasionally, unconnected with any structural disease, in infants who die of exhaustion consequent on the eruptive fevers, or on improper diet after weaning.

The children in whom it takes place have generally had for some time before death severe disorder of the stomach of the same kind as occurs in adults: frequent vomiting, loss of appetite, great thirst, and crying, as if from pain; and with these symptoms there is often diarrhœa, the discharges from the bowels being *green*, like spinach, from the presence, I imagine, of bile acted on by acid, which has passed down from the stomach, and has not been neutralised.

In infants the softening of the stomach is

found unconnected with organic disease of other organs much more frequently than in adults, because in them the functional gastric disorder, which may be excited by teething, or other causes of disturbance, rapidly exhausts the strength, causing a state of collapse, and thus proving fatal of itself.

In infants the softening is usually more extensive than in adults, and in higher degree; more frequently leading to perforation of the stomach, and to softening or corrosion of contiguous organs. As in adults, however, the degree of softening bears no necessary relation to the severity or duration of the gastric symptoms; and this circumstance, together with the absence of any marks of inflammation in the peritoneum, even when the diaphragm, as well as the stomach, has been dissolved quite through, shows that the changes have taken place after death.

This softening of the stomach is usually found, then, in persons who die of disease of some other organ, and of those diseases especially which have long been known to lead to secondary functional disorder of the stomach. Now this peculiar softening of the coats of the stomach is, in any case, a clear proof that there was active gastric juice, or its acid, in the stomach at the time of death. Its frequent occurrence, therefore, in persons who die of the diseases I have mentioned, shows us that the functional disorder of the stomach so common in those diseases is associated with increased secretion of gastric juice, or its acid; or with secretion of gastric juice, or its acid, when there is no food in the stomach; or with undue retention of it in the stomach; so that at the time of death active gastric juice is contained in the stomach, which subsequently dissolves or digests its coats.

The question then arises—How is this functional disorder brought about in these several diseases, and what is its real nature?

When disease of any one organ causes secondary disease of another and distant organ, it must be either through the circulating fluids, or through the nervous system. It is only by the circulating fluids, or through the nerves, that disease of an organ can cause secondary disorder of a different organ remote from it.

But, in the cases in question, this secondary disorder of the stomach can hardly arise through the blood. Tubercular disease of the lung, continued fevers, inflammatory diseases of the brain, cancer of the uterus, and mere functional disorder of this organ, lead to no common change in the blood by which this peculiar functional disorder of the stomach can be explained.

We are driven, then, to the inference, that the secondary disorder of the stomach in these diseases is produced through the intervention of the nervous system.

inference is confirmed by the fact, that in phthisis the softening of the coats of the stomach after death, like the functional disorder that usually precedes it, is more common in women than in men; and that when it results from inflammatory disease of the brain it is much more common in young children than in grown-up persons. For the same primary disease, whether it be of the brain or of the lung, the change is most common in those persons who, by their sex and age, are most liable to sympathetic disorders.

Considering, then, this functional disorder as a sympathetic disorder excited through the nervous system, the further question arises—What is its real nature? Does this sympathetic disorder affect the secreting apparatus of the stomach, or merely its muscular coat?

In my last lecture I mentioned the circumstances which led me to infer that the outpouring of the gastric juice, which has been supposed to result from direct irritation of the stomach alone, might also be excited, through reflex nervous influence, by irritation of other parts; that as the flow of urine may be increased by emotion as well as by direct irritation of the kidney through the blood; or as the secretion of tears may be excited by irritation of the nostril or the mouth, or by emotion, as well as by irritation of the surface of the eyeball: so might the outpouring of the gastric juice be excited by irritation of the fauces, and, therefore, probably of the lung, or by irritation of the brain, as well as by mechanical or other irritation of the inner surface of the stomach itself.

The circumstances which I have brought under your notice to-day confirm this inference, and afford additional grounds for supposing that in many of the cases we have been considering it is to the secretion of gastric juice excited in this way in an empty stomach that the symptoms referrible to the stomach, and the digestion of its coats after death, are mainly owing; that the secondary disorder of the stomach which occurs in inflammatory diseases of the brain, in phthisis, and in various diseases of the abdominal viscera, affects the secreting apparatus of the stomach, as well as its muscular coat.

In some of the cases to which I have alluded, the softening of the coats of the stomach may, however, be accounted for in another way; namely, by supposing that an impediment existed to the free action of the muscular fibres, so that the stomach could not be completely emptied, and that the acid thus remaining in the stomach after digestion was over dissolved its coats after death.

The softening of the stomach found in conjunction with simple ulcer may be satisfactorily accounted for in this way:—When

the ulcer is near the pylorus, or when it is of long standing, and has partially cicatrised, and thus altered the shape of the stomach, it must interfere with the action of the muscular fibres, and tend to prevent the stomach from being ever completely emptied through the pylorus.

The explanation applies also to those cases of phthisis in which the stomach is found much enlarged, as well as softened. It was particularly remarked by M. Louis, and has been long known, that the stomach often becomes much enlarged in the course of phthisis, being not unfrequently found after death three or four times its usual size. No satisfactory explanation of this enlargement of the stomach has, that I am aware of, been yet given. M. Louis ascribes it to the frequent cough; but, if it were so produced, it would be observed in conjunction with mere chronic catarrh as frequently as with phthisis. The real cause of it is, I believe, enlargement of the liver from fatty degeneration, which always exists in those cases of phthisis in which the stomach is found much enlarged after death. The large liver compresses the pyloric division of the stomach, and prevents the stomach from being emptied through the pylorus by the wasted and weakened muscular fibres. When this happens, some of the acid products of digestion must remain in the stomach, and may be the cause of the softening of its coats found after death.

In many cases of phthisis, and in most of the cases of other diseases in which the stomach is found softened, the change cannot be thus explained, and the only way in which I can account for it is by the supposition I have before advanced.

I have hitherto described the most common form of softening by the gastric juice; namely, where the great end of the stomach and the lower and back part of the œsophagus—parts with which the gastric juice usually lodges after death—are the parts softened. But, occasionally, softening of the same kind occurs in other situations. Cruveilhier remarked that the *gelatiniform* softening is sometimes found on the anterior wall of the stomach, when the stomach is empty, and when there is no softening on the posterior wall or in the great end, where the softening or digestion after death usually takes place; and that in some instances the same kind of softening occurs also in the intestines; and he considers these facts conclusive evidence that the softening could not in such cases be the effect of the gastric juice, and that it must have resulted from disease, and during life. He says—"The gelatiniform softening is generally met with in the splenic end of the stomach; but it occurs also in its anterior wall, and in various parts of the small and of the large intestine, and in the lower end of the œsophagus.

The softening always proceeds from within outwards, and in the intestines, as in the stomach, may lead to perforation. The parts thus transformed are colourless, transparent, completely deprived of vessels, and of a sour smell, without any marks of inflammation, and without the odour of gangrene. The softened parts, indeed, undergo putrefaction less readily than others." This kind of softening, he adds, occurs occasionally in adults, but it is much more common in infants.

Soon after the publication of Hunter's paper, by which the attention of the profession was first called to the digestion of the stomach after death, instances of this kind were noticed; and in the 6th vol. of the *Edinburgh Medical and Surgical Journal* there is a paper by Mr. Adam Burns, containing observations exactly like those of Cruveilhier. Burns met with three cases in which the fore part of the stomach was dissolved; and four cases, apparently including these three, in which every part of the alimentary canal, from the cardiac orifice of the stomach to the beginning of the rectum, was dissolved into a pulpy, glutinous mass, transparent, and bearing some resemblance to thick starch. Not a single point of either the stomach or intestinal tube but was so much acted upon that it tore whenever it was even gently touched. The other viscera presented no peculiar changes. The subjects were young children, fat, and free from putrefaction. In all of them the abdomen, when opened, emitted a sour smell. Burns did not know the history of these persons, and could tell nothing of their condition during life.

As in instances like those I have just cited, the softening occurs in parts with which the gastric juice does not generally come into contact, the question naturally arises—may not the softening in such instances have been brought about in some other way? It is important to bear in mind that ordinary putrefaction does not produce these effects. The changes which putrefaction causes in the firmness and texture of the mucous membrane of the stomach occur very slowly. For several days after death, when most of the viscera are softened by putrefaction, the mucous membrane of the stomach often retains almost the firmness which it had at the time of death. Gas forms in the submucous areolar tissue, causing an emphysematous condition of the coats of the stomach; the blood decomposes, and filters through the vessels, and stains its different coats; the stomach becomes further discoloured by the gases that permeate its tissues; but the mucous membrane retains its firmness, sometimes, as was observed by Andral, for eight or ten days after death. From this

the inference may be drawn that unnatural softness of the mucous membrane of the stomach cannot be ascribed to ordinary putrefaction unless many days have elapsed since death, or unless putrefaction has far advanced in other parts of the body.

But, setting putrefaction aside, might not the softening of the stomach and intestines have occurred during life, from defective nutrition, or some other morbid process? The stomach and intestines, it is expressly stated by both Cruveilhier and Burns, exhibited no traces of inflammation; and the same remark has been made by other pathologists who have described similar appearances in these organs; but we not unfrequently find softening of other tissue, occurring from some obscure fault of nutrition, without any process to which the term *inflammation* can be rightly applied. This sometimes happens, in organs that are much exercised, from mere defective nourishment. The more an organ is exercised, the greater is the waste of its constituents, and the sooner, therefore, it suffers, when, from defective supply of food, or from any fault in the assimilating processes, the repair of its waste is prevented.

The cornea, from being of delicate texture, and much exposed, suffers from defective nourishment, and becomes ulcerated, when firmer and more protected, and more vascular tissues, into the composition of which nearly the same elements enter, present no such marks of destruction. The muscles of the heart are in continual action, and in low fevers (in which the fibrine of the blood becomes much diminished, and the nutrition of the muscles is prevented) they undergo a softening that does not occur in the voluntary muscles, which, from the commencement of these fevers, are in comparative repose. But in the secreting glands, which have many points in common with the mucous membranes, as regards both structure and function, a similar softening is now and then met with, without any trace of inflammation, the result, seemingly, of some obscure defect of nutrition.

A change of this kind is occasionally met with in the liver, in those cases of jaundice that prove fatal speedily from disorder of the functions of the brain. All the tissues of the liver, in certain parts of the organ, are found softened, or disorganised; and in these parts, on microscopic examination, none of the hepatic cells, which serve to secrete the bile, can be seen.

A similar disorganisation of the kidney now and then occurs, but so seldom, that it has not, that I am aware, been noticed by pathologists. An instance of it fell under my observation in the autumn of 1844, in a gentleman who had been under the care of several of our eminent physicians, and who

fell to my charge only a few days before his death. He had oedema of the legs, and distressing vomiting, and his urine (which was several times tested by heat and nitric acid) was found to be albuminous. From these symptoms, and from there being no signs of any other disease sufficient to account for them, he was supposed to have granular disease of the kidney. On examination of the body, I found the kidneys remarkably softened: the right, which was the smaller of the two, was so soft that it broke down under the slightest pressure of the finger, like a softened spleen, immediately recalling to my mind the softened and disorganised livers that I had previously seen. The body was examined forty-two hours after death, in hot weather, and exhibited marks of commencing putrefaction, but the liver and the spleen were firm.

The question, then, very naturally arises—Might not the softening of the stomach and intestines in the cases to which I have referred have resulted from some obscure fault of nutrition? A consideration of the particulars of these cases will, I think, shew conclusively that it did not so originate, but that, as in the ordinary cases of stomach digestion, the change occurred after death, and was the effect of the gastric juice.

Cruveilhier has given the particulars of a case in which he found the fore part of the stomach softened, and a drawing (from which this diagram is taken), representing the appearance of the stomach in question. The person in whom this occurred was a man-servant, 22 years of age, who died of fever, in the latter stages of which there was severe disorder of the brain. The stomach was found empty, and was only softened in this spot on its anterior surface. The mucous and muscular coats were here destroyed and removed, so that perforation was only prevented by the peritoneum, which was spread as a thin gauze over the part.

But there is another circumstance noticed by Cruveilhier, which to my mind is quite conclusive that the softening resulted from the gastric juice after death. In the lower and back part of the oesophagus there were two perforations leading into the left pleural sac, just as are found occasionally in conjunction with softening of the great end of the stomach in persons killed by accident, in the midst of health, and soon after a meal; and, as happens in these latter cases, the edges of the perforations were soft and ragged, and the blood-vessels surrounding them were of a jet black. Cruveilhier notices, moreover, that at a spot corresponding to these apertures, the pleura covering the lung had also undergone the gelatiniform softening, and that the tissue of the lung was laid bare; and with all this, he expressly states, there were no marks of

inflammation, either in the pleura or in the lung.

But if any doubt still remains of the nature of these changes, it will be removed by a case, which I will next cite, recorded by Adam Burns in the paper to which I have already referred.

The following are the particulars of the case, as given by Burns:—

"About ten months ago, I had occasion, two days after death, to open the body of a very emaciated and anasarctous young girl, who had died from scrofulous enlargement of the mesenteric glands. On raising the coverings of the abdomen, the stomach, which was empty, presented itself to view, with its front dissolved. The aperture was of an oblong shape, about two inches in its long diameter, and an inch in its short, with tender, flocculent, and pulpy edges. This I demonstrated to the pupils attending my class; and I especially called their attention to the fact, that the liver, which was in contact with the hole, had no impression made on it. Having proceeded thus far, I placed all the parts as they had been, stitched up the abdomen, and laid the body aside in a cold situation for two days. Then I opened it again, in presence of the same gentlemen, and we found that now the liver, where it lay over the dissolved part of the stomach, was pulpy; its peritoneal coat was completely dissolved, and its substance was tender to a considerable depth. At this time the other parts of the liver were equally solid as before; and as yet every part of the subject was free from putrefaction. The posterior face of the stomach, opposite to the hole, was dissolved, all except the peritoneal coat; at least, the internal coats were rendered pulpy and glutinous." "The dissolved part," he goes on to observe, "was seated at the fore part of the stomach, about an inch distant from the pylorus, and midway between the smaller and greater curvatures of this viscus, at a part of the stomach with which the gastric juice could not have come into contact, as the body had constantly been in the supine posture."

Now, it will naturally be asked, If the softening of the stomach in these cases was the effect of the gastric juice acting after death, how did it happen that the fore part of the stomach was dissolved, while the hinder and lowermost parts, where fluids in the stomach tend to collect, were not dissolved?

The following is, I have little doubt, the right explanation of the fact. In the case related by Cruveilhier, the stomach is stated to have been empty; that is, its surface was moistened merely by the gastric juice. Now the man died of fever, and, as happens in the severe forms of this disease,

the blood, we may infer, was unusually fluid after death, and gravitated to the lowermost parts of the stomach; and the transudation of the alkaline serum of the blood (through the coats of the vessels in these parts neutralised the acid of the small quantity of gastric juice contained therein, and destroyed its solvent power.

In Burns's case, the fact, that the stomach was softened in its forepart only, may be explained in the same way. The stomach, here also, was empty, and the girl was dropsical. The alkaline dropical fluid, transuding through the coats of the stomach at its hinder or lowermost part, neutralised the acid of the small quantity of gastric juice that moistened its coats, and prevented any digestive action from taking place there.

It may be predicted with tolerable safety that it will be only in such cases, and where the stomach is empty, that softening of the upper or forepart will occur, without there being at the same time softening of the lower and hinder parts.

If it be established by the circumstances I have mentioned, that the softening of the stomach in these cases was the effect of the gastric juice after death, the presumption is very strong that the so-called gelatiniform softening of the intestines, which is met with in the same class of cases as the softening of the stomach, and very generally (as seems to have happened in three of the cases related by Burns) in the same persons; — the presumption, I say, is very strong that the softening of the intestines is of the same nature, and produced by the same agent.

But, without reference to the stomach or to the circumstances in which the softening occurs, and considering merely the characters of the change in the intestines, we are led to the same conclusion.

The change, like that produced by the gastric juice, affects the different coats of the bowel in succession, from within outwards, leading at length to perforation.

The decomposition, like that in digestion, is unattended by evolution of gas.

The parts softened, when they did not contain much blood at the time of death, have a semi-transparency, or a gelatinous appearance, like albuminous tissues in process of softening by the gastric juice.

Again, from the observations of Burns, we may infer that the change in question, like digestion of the stomach after death, is most common in summer. Burns, indeed, tells us that he never met with it except in the summer months.

Digestion after death requires the presence of a free acid, and, as digestion goes on, the acidity of the gastric fluids increases.

Now, both Cruveilhier and Burns particularly remarked, and their observations appear to be quite independent, that the softened intestines in the cases in question had a sour smell.

Another very important property of the gastric juice is, that it prevents putrefaction. Now it is stated by Cruveilhier, and the same may be inferred from the remarks of Burns, that the softened parts had no odour of gangrene. Cruveilhier expressly says, indeed, that they undergo putrefaction less readily than others.

All the circumstances I have mentioned — the circumstances, namely, that the softening of the coats of the intestines occurs in the same class of cases, and sometimes in the same person, as softening of the stomach; that it occurs especially in summer; that it involves the different coats of the bowels in succession, from within outwards; that it is unattended by the evolution of gas; that the softened tissues have a semi-transparency, and a sour smell; and that they exhibit no marks of inflammation, and are free from any odour of gangrene: — all these circumstances leave, I think, no doubt that the change in question occurs after death, and that it is produced by the gastric juice. The mere presence of acid in the intestines is not sufficient to cause it, since the coats of the intestines, when acted upon by an acid, have no peculiar dissolving or digestive power, like those of the stomach.

The softening of the intestines is most commonly found in infants who have died of hydrocephalus, or of tuberculous disease of the lung, or with functional disorder of the brain; and in whom, together with the peculiar gastric disorder that so often exists in the cases in which softening of the stomach is found, there has been severe diarrhoea, with green, spinach-like, stools: the green colour being the effect of uncombined acid on the bile.

Softening of the intestines, like softening of the stomach, is also found occasionally in grown-up persons, who have died of phthisis, or of typhoid fever; especially where diarrhoea has existed, with the peculiar gastric symptoms to which I have so often referred.

There can be little doubt that, in the cases in which this happens, the gastric juice passes, in its active state, from the stomach into the intestines; and that not meeting there with alkali enough to neutralise its acid, and thus destroy its solvent powers, it dissolves or digests the coats of the intestine after death.

The result, then, at which I arrive is, that the softening, with thinness, of the coats of the alimentary canal, described by Louis, —

the pasty or pulpy and the gelatiniform softening of Cruveilhier,—and the other varieties, described by other authors, distinguished by the colour of the softened tissues, are essentially the same change; and that this change, whether it exist in the lower end of the oesophagus, or in the great end of the stomach, or in the fore part of the stomach only, or in any part of the small or the large intestine, is produced after death by the gastric juice, like the softening of the great end of the stomach, remarked by Hunter, that occurs after sudden and violent death, in the midst of health, and soon after a meal.

I have occupied much of your time in considering the change, because I consider the subject as one of great importance. It is obviously important with reference to medico-legal inquiries; and it is important, also, with reference to the attainment of a right knowledge of the pathology of the digestive organs. Every one who has studied the diseases of these organs by means of morbid anatomy must have had his mind perplexed, as mine has often been, and his progress stayed, by the continually recurring question, What do these striking changes mean?

But the subject is important, too, with immediate reference to practice, because the study of it leads us to a more intimate knowledge of a peculiar form of indigestion, which is of frequent occurrence. In the class of cases, indeed, in which this form of softening of the stomach and intestines is found after death, there generally exists for some time previous to death a peculiar form of indigestion, attended with various distressing symptoms referrible to the stomach and bowels,—the result mainly of the presence of free, uncombined, gastric juice in them; and the efficacy of liquor potassæ and other alkalies in relieving this gastric disorder, and the like efficacy of chalk mixture (which furnishes an insoluble alkali, which is not absorbed in the stomach, but passes down into the intestines,) in relieving the diarrhoea and the griping pain that attends it;—the efficacy of these medicines results from their neutralising the acid of the free gastric juice, and thus preventing the juice, which loses its solvent power when thus neutralised, from exerting any chemical action on the tissues, or calling for the expenditure of their vital force of resistance.

Original Communications.

ON THE RECENT OCCURRENCE OF SCURVY IN EXETER AND THE NEIGHBOURHOOD.

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[Concluded from p. 948.]

WE shall now proceed to discuss the nature of the disorder affecting these people, and the causes which have tended to produce it.

In the first place, it may be observed, there is every fair ground for concluding that the cases enumerated in which the gum was pale and contracted are essentially instances of this disease, but in its earlier and slighter form. They offer the same evidence of general debility, tendency to faintness, oppression of breathing, pains across the loins; in fact, the same general indications of departure from the normal and healthy state of the blood, differing only in degree from that more marked deterioration in this fluid characteristic of the confirmed disease.

We may also conclude that the blanched contracted gum is the forerunner of the swollen, spongy-looking, and eventually bleeding gum; for we have seen in the above cases that the former occurs, on the one hand, in conjunction with the other and more recognised symptoms of scurvy, including petechiæ; while, on the other, it occurs combined with, or passing into, the latter: thus we see the gum pale and contracted; pale and swollen; pale and contracted at the lower part, with a spongy, swollen, red edge; the upper gum pale and swollen, while the lower has been swollen, red, and spongy; the pale gum passing, in the course of a few days, into the swollen, and then into the red and spongy gum. In fact, the cases offer every variety of example in which the pale contracted gum is combined with the swollen, red, spongy gum; and as the former invariably precedes the latter, and for the most part accompanies the slighter forms of the disease, we are justified

in stating that the anæmic gum is one of the symptoms indicative of scurvy, but of the earlier stage of the disease, and which immediately precedes that in which there are morbid deposits taking place, whether these be in the gums, in the joints, in the muscular system, or elsewhere.

There is one other symptom to which attention may be directed—the pain across the loins: this has been invariably experienced, and has proved most painful and persisting in its nature; it has remained unrelieved, though the gums may have recovered their healthy character, the countenance its wonted appearance and expression, and the constitution its general tone and strength. I am disposed to think this pain is not due to any disorder in the urine or kidneys, but to a neuralgia of the lumbar nerves. The frequent occurrence of fixed neuralgic pains in other parts conduces very much to this opinion.

It is unnecessary, in the present day, to go into any very minute investigation of the remote causes of scurvy; at the same time, it may not be altogether useless briefly to review the external relations of the persons who have been submitted to its influence. The more obvious and interesting agents generally to be regarded in an inquiry of this kind are,—the conditions of the atmosphere, the occupations of the individual, the nature and amount of his food, &c. &c.

The winter has been unusually severe and protracted. During the last six months* the temperature has been lower, with a lower range of atmospheric pressure, and a less amount of rain, than is the usual average of these months, while the winds have blown

chiefly from the eastward instead of from the westward.

That cold has some influence in the production of scurvy may be assumed from its being a disease for the most part of later winter or early spring, and from its frequent occurrence in the colder latitudes of the north of Europe; but that cold is not the cause of the disease may also be inferred from its not occurring at those periods, or in those situations, excepting under certain conditions, while, under these conditions, it occurs in warm weather, and more southern latitudes. We therefore conclude that cold is not the cause of scurvy, but that when such cause may be in force it greatly predisposes to it.

That impure air was not the cause of the disease in these cases is evident, from many of those affected having been persons occupied much in the open air, or living in well-ventilated rooms, as in the Union workhouse, where the usual regard had been had to this particular. Doubtless, the living in an impure air would tend to depreciate the general health, and thus render the system more susceptible of the influences of this disorder, but it cannot be esteemed a cause.

That scurvy is not produced by any peculiar occupation is evident from its occurrence among persons engaged in various trades, as likewise in those following no particular calling; in fact, it has been rather shown, more especially in the Crediton Union, by the disease chiefly affecting the women and children there, that the want of occupation, and the absence of exercise thereby engendered, much predisposes to its attacks.

We now come to the important question of food: first, as regards amount.

* The mean height of the Thermometer and Barometer, the Prevailing Winds, and Amount of Rain, from October 1846 to March 1847, compared with the Averages of these months during Ten Years.

	Mean Temperature.		Mean Atmospheric Pressure.		Prevailing Winds.		Amount of Rain in inches.	
	1846 & 1847.	For Ten Years.	1846 & 1847.	For Ten Years.	1846 & 1847.	For Ten Years.	1846 & 1847.	For Ten Years.
October	51.0	53.2	29.47	29.34	N. & NW.	W.	4.54	3.1
November	46.9	45.6	29.67	29.86	E.	W.	3.24	3.1
December	36.3	43.3	29.67	29.79	N. & NE.	W.	.84	3.6
January	40.5	36.6	29.47	29.85	E. & SE.	NE.	3.52	2.9
February	39.9	41.6	29.74	29.91	E. & NE.	W.	1.50	2.6
March	42.9	44.4	29.61	29.36	S. & SE.	W.	3.26	3.1
Means & Totals	42.9	44.4	29.60	29.88	E.	W.	15.32	17.4

There has been, in the course of the above cases, the most satisfactory evidence offered that the cause of this disease cannot be referred to a deficiency in this respect, as very many of those affected by it have been well off in means, and certainly those in the Crediton Union Workhouse enjoyed a diet which has been shown to have been most ample; we must therefore look to kind and quality.

It cannot fail to have been observed that the greater proportion of those affected have lived chiefly on fermented bread;* that such bread is not the cause of scurvy, its long and universal use is sufficient evidence; at the same time, the occurrence of this disease in those using it so freely, shows it is not, as has been supposed, prophylactic against it; the same may be said of rice, the poor generally not having eaten it, while its use in the Union workhouse has shown it incapable of preventing its occurrence; that salted provisions are not its cause is also certain, as by far the larger proportion of those affected have not eaten of them. It now only remains to speak of the absence from the diet of the usual esculent, the potato: in this respect only has the food of all these people differed from that of other seasons; and it is here worthy of remark, that in the Crediton Union there intervened between the last use of potatoes and the prevalence of the disorder referred to, a period of about six months, and experience has shown this to be the usual time a diet devoid of fresh ascendant principles takes to produce scurvy.

As the recent failures in the potato crop have excited the enunciation of certain political opinions condemnatory of the use of this esculent, it may not be useless briefly to refer to the conclusions which have been arrived at by able and competent authorities in reference to its anti-scorbutic properties.

Sir Gilbert Blane, in his account of the Diseases of the Fleet in 1781, mentions that the potato sliced with vinegar proved useful in preventing and curing scurvy; similar testimony is subsequently offered by Mr. Dalton

(Lancet, Sept. 22d, 1842). Mr. Berncastle and M. Fontenelle have, however, shown its usefulness in this respect is not destroyed by cookery, as was supposed, the one having used it boiled in the usual way, the other slightly baked. Dr. Baly, who has given a digest of these and other opinions (Med. Gaz., Feb. 16th, 1842), adds his own valuable testimony to its being, as ordinarily cooked, "an admirable preservative against scurvy." The facts from which Dr. Baly deduced this conclusion are most striking. As physician to the Millbank Penitentiary he observed that scurvy was unknown amongst the convicts whose diet contained a fair allowance of potatoes (5 lbs., together with an onion, weekly), whilst it was of very frequent occurrence amongst the military offenders, whose diet was almost wanting in this respect (only half a pound in the week), and that since these latter have been allowed the larger amount of potatoes the disease has not recurred amongst them. Similar and equally conclusive evidence is deduced by Dr. Baly from the occurrence of scurvy in other prisons of the kingdom.

We may still proceed one step further, and show to what peculiar principles the antiscorbutic qualities of the potato are due; and in doing so I shall quote the summary given by Dr. Baly:—"A glance at the chemical analysis of the potato at once explains its antiscorbutic virtue. The various fruits, succulent roots and herbs, which have the property of preventing and curing scurvy, all contain, dissolved in their juices, one or more organic acids, such as the citric, tartaric, and malic acids. Sometimes these acids exist in the free state, but more generally they are combined with potash and lime, or with both these bases: now potatoes have been submitted to most elaborate chemical examination by Einhoff and Vauquelin, and by both these chemists they have been found to contain a vegetable acid in considerable quantity. According to Einhoff, this acid is the tartaric, combined with potash and lime; according to Vauquelin, it is the citric, partly in combination with these bases, and partly in the free state. The farinaceous seeds, as wheat, barley, oats, and rye, which are destitute of antiscorbutic

* It is a remarkable fact that the cases of scurvy which came under Dr. Heberden's observation at St. George's Hospital, in 1795, had lived chiefly on bread and butter. (Med. Trans. vol. iv.)

property, contain no organic or vegetable acids."

From all that has been now stated we must come to the conclusion that the recent occurrence of scurvy in Exeter is due to this one cause—a deficiency of food containing acid principles*, and that the potato has hitherto been the means whereby these acid principles have been supplied. We may further conclude that the peculiar symptoms of this disease are not developed until after the system has been deprived of food of this nature for some months; that the persons most liable to be affected by it are those of naturally weak constitutions, or who are submitted to inactive or depressing circumstances: and that protracted cold weather greatly predisposes, on the one hand by depreciating the powers of the system, and on the other by checking the growth of fresh vegetables, and rendering such as are raised deficient in proper juices.

From all that has now been stated of this disease,—from its symptoms,—its predisposing and remote causes,—has any light been thrown on its nature or proximate cause? We see evidently that it primarily consists in a peculiar state of anæmia, and that this anæmic state, unattended by loss of appetite or irregularity in the alvine secretions, is accompanied by a general dusky pallor, weak pulse, breathlessness, and disposition to syncope,—a condition of the system easily followed by, and complicated with, low feverishness and tendency to local deposits, causing swollen red gums, stiffness and swellings of the joints, together with petechia, hæmorrhages, and nodes,—a series of phenomena distinctly indicating the proximate cause of this disease to be a disordered state of the blood, and which disordered state it would appear from the investigations of Mr. Busk†, mainly consists in the amount of fibrine, albumen, and salts and water, exceeding the proportion of

health, while that of the hæmatosine falls below it.

In accordance with the above indications of the nature and origin of this disease, the mode of treatment pursued has mainly been the use of acids, and much benefit has resulted therefrom; otherwise the use of potatoes, if they could be procured good, and other vegetables, has been enjoined, together with oranges, cider, vinegar, pickles, &c.: in fact, such treatment as is usually recognised amongst us as adapted for the cure and counteraction of scurvy.

ON THE APPLICATION OF LIGATURES IN THE TREATMENT OF VASCULAR TUMORS.

By D. HENRY WALNE, F.R.C.S.
Consulting Surgeon to the German Hospital.

In the month of October, 1845, I was consulted respecting a child, then four months old, in the interior of whose mouth was a highly vascular nævus of very rapid growth, which had excited alarm in the minds of its parents. Two medical gentlemen, the usual advisers of different members of the family, had already been consulted, and the progress of the growth had strongly impressed one of them with apprehension, if not for the safety of the child's life, yet of grave inconvenience, from the spread of the nævus to parts of more moment than those hitherto invaded.

I was informed that soon after the child's birth a small spot in the lower lip had attracted attention; and on further observation an appearance resembling a sprinkling of boiled lobster spawn was noticed within the mouth; but being altogether very small, it was at that time thought to be a matter of a trivial nature, which need excite no alarm. The mother was reminded, or bethought herself, of a longing she had experienced for lobster, and the appearance thus accounted for to the satisfaction of her female friends, whilst she herself was more uneasy about its consequences, and watched its progress with an anxiety which kept pace with its evidently rapid increase.

When I came to examine the state of things, I found a small portion of

* It must not be understood from this that scurvy is stated to be solely caused by a deficiency of vegetable food. Scurvy is essentially a disease of depraved nutrition, and may be produced by a too restricted and exclusive use of any kind of food. In this paper I am strictly confining myself to the nature and origin of the disease now prevailing.

† Art. "Scurvy," by Dr. George Budd, Lib. of Med.

the lower lip, near the left angle of the mouth, occupied by a *nævus* having at that part much the character of the subcutaneous species, of a bluish red colour, and increasing in size on the child's crying. From this spot in the lip the *nævus* extended backwards into the mouth more than an inch and a quarter, by a breadth of full three-quarters of an inch at the widest part, where it closely approached the gum. Its outline was made up of numerous little curves, and its form altogether very irregular. It was elevated, perhaps an eighth of an inch, above the level of the mucous membrane, but its surface was nearly flat, with a slight declination towards its margin. It seemed to involve the mucous membrane and the subjacent cellular tissue. Within the mouth its colour was of a bright red, bearing considerable resemblance to what the mother had compared it to.

The reported rapidity of growth, the near approach to the gum, and the fear that more important parts might become implicated, with the certainty that the sooner it was extirpated the less inconvenience, whether from disfigurement or any more serious consequence, would be experienced, induced me to recommend an immediate operation by ligature; but whilst I did so, I felt that some little difficulty would attend the accomplishment of my purpose.

In a few days the child was again brought to me; and the parents expressing a wish that I should take what steps I thought best, on the 31 of November, one thousand eight hundred and forty-five, assisted by my friend Mr. Beale, and in the presence of two other medical gentlemen, viz. Mr. Cocke and Mr. Hughes, I proceeded to effect the destruction of the diseased growth in the following manner:—

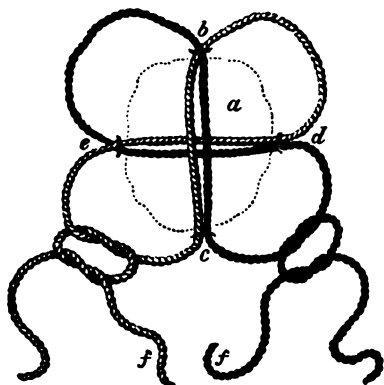
Being seated, I took the child's head between my knees, whilst the nurse supported the body, and kept down its little hands. Pressing the thumb of my left hand outside, and using the fore-finger of the same hand inside the child's cheek, I readily everted that part, and with the assistance of Mr. Beale, who extended and helped to evert the lower lip, the *nævus* was brought well into view. Now taking a Cheselden's needle (the eye towards

the point), armed with a double ligature, the halves of which were distinguished from each other by one of them being marked, I passed the needle from behind, beneath the *nævus*, in the direction of its longest diameter, bringing out the point of the needle and the double ligature just below the forepart of the *nævus*, where it involved a part of the lower lip, near the angle of the mouth. Mr. Beale drew forward the ligature a little, divided it, disentangled the *divided ends* from the needle, and pulled them out still further, to an extent sufficient for knotting at another stage of the operation. The needle being withdrawn, was threaded afresh with one of the *tails* of the ligature, and passed again beneath the *nævus*, in a direction exactly crossing the one in which it had been before passed, and the tail of the ligature was drawn from its eye and pulled completely through. The other *tail* of the ligature was then passed in the same manner from the point opposite that at which the first tail had been passed. As soon as I had withdrawn the needle for this purpose, I felt that it could have been threaded as effectually with the second tail before withdrawal, and thus the third insertion of it avoided, and I resolved in future to employ that procedure; but was well satisfied to perceive, on knotting each *cut end* with the corresponding tail of each half of the ligature, the strangulation of the *nævus* became as desirably complete as could be wished. A few days sufficed for the substantial removal of the disease.

It is difficult to convey by description an accurate idea of a proceeding of this kind, and still more so, perhaps, to make its effect clear. The aid of a diagram, if not absolutely necessary, very materially facilitates the apprehension of the matter, and the annexed representation, by Mr. James Lee, shews very distinctly how the base of a flat growth may be included and strangled in four compartments, by successively tightening the two halves of a ligature introduced as I have described. (See next page.)

Each tail is now to be knotted with its corresponding or fellow cut end, and if the ligature be not marked previously for the purpose, should be carefully tried to ascertain the correspondence, before any strain be put

upon it, lest a mistake should lead to its being withdrawn, instead of being tied, as it should be, as firmly as possible with its fellow end.



a, The base of the *nævus* represented in dotted outline.

b, The point, a little removed from the margin of the disease, at which the needle first enters, carrying a double ligature to

c, A point, also a little removed from the margin of the disease, where the ligature is pulled forward, divided, and its *cut ends* drawn out sufficiently for knotting.

d, The point at which the needle is inserted the second time, carrying one *tail* of the ligature, which having been withdrawn from the needle and pulled quite through at e, the needle may be threaded with the other *tail* of the ligature and drawn back, or if this should be difficult it may be withdrawn, then threaded with the second *tail*, and carried from e to d.

f, f, Are the two *cut ends* distinguished from the original *tails* of the ligature.

When both halves of the ligature have been thus tied, the *nævus*, included in two figures of 8, is strangled in four parts, and there is no risk of the ligature slipping.

For the sake of more clearly elucidating the effect of the ligature, and shewing how each half, forming a figure of eight, acts separately, the artist has exhibited one half as white, the other as black cord. A slight mark distinguishes the portions of ligature sufficiently in practice, or the precaution I have suggested answers every purpose.

If my readers will take the trouble to consider the situation and character of the growth with which I had to deal in the above case, they will, I think, appreciate the usefulness of the mode

of effecting its cure. A highly vascular *nævus*, little raised, almost perfectly flat, having no neck, not even a groove at its margin, extended nearly an inch and a half in one, and more than three quarters of an inch in the opposite direction, inside the cheek of an infant at the breast.

In ordinary situations it would not be at all difficult to ligature a growth of this size by some one or other of the modes in daily use; and that which I prefer, as both very effectual and readily practicable, is very well illustrated by the following case:—

An infant a few months old was brought to me some 200 miles from the country, where a consultation had been held, the result of which was not very satisfactory to the affluent parents of an only child. A *nævus* of mixed character, involving skin, and extending beneath it, occupied the left side of the face, from a little before the ear to a point so near to the outer angle of the eyelids, as to drag and slightly pucker the loose skin of that part. It was irregularly raised above the level of the other skin of the face, looked of a purplish red, its size and colour being much increased when the child cried, and both materially reduced during the pressure of the fingers in examination. Its diameter exceeded an inch and a half in one direction, and was nearly as great in the opposite. An attempt had been made to cure it by vaccination, and its most elevated part had a thin, scaling, tender-looking surface, which threatened to burst whenever the child cried. A fear of this occurrence had induced a suggestion that the nurse should be prepared to apply her thumb in case of bleeding, till surgical aid could be obtained; but no operative proceeding had been agreed upon. Under these circumstances I advised the use of the ligature, and with the concurrence and assistance of Mr. Vincent, employed it as follows:—Having fixed the child as in the above case, I passed a steel hare-lip pin beneath the tumor in its longest diameter, and cut off the sharp point of the pin. Now using the pin to raise and steady the tumor, I passed a Cheselden's needle, carrying a double ligature, also beneath both tumor and pin, at right angles with the latter. The ligature being divided, and the

ends pulled through sufficiently, and the needle withdrawn, each half of the ligature was firmly tied under an end of the pin, so as to include and strangle one half of the tumor.

As soon as I tightened the first half, the blood spirted to a distance, bursting the thin surface of the tumor, where it had threatened to bleed, and convinced us of the imminent hazard in which the child had been living. The usual course of separation having been gone through, in little more than a fortnight a diamond-shaped cicatrix was the only vestige of the disease.

It is obvious enough that, excellent as is this latter mode of tying external vascular growths of limited extent, the pin would be objectionable in the interior of the mouth, yet in no part is there greater need of some contrivance for securing a ligature from slipping. The constant flow of saliva, increased too by the irritation of the ligature, and the soft slippery character of the lining of the mouth, render it sufficiently difficult to retain a ligature on a pedicle not very decided in its form; but with a flat growth the difficulty is insurmountable, except by some very efficient means. Such, I am persuaded, will be found in the mode of tying I employed in the first case; and I therefore recommend it for adoption on similar occasions.

Some of my readers may have seen a paper, published in the February number of the *Monthly Medical Journal*, in which Professor Fergusson gives an account of a "New Method of applying Ligatures for the Cure of Tumors," which he speaks of having employed "for some time past." It is precisely that which I used in the first described case, which I am sure that gentleman will consider a happy illustration of the efficacy of the "new method;" and if he observes the date of my case will see that, though not in publication, I have probably in practice anticipated him, since no mention of, or allusion to such a procedure, is to be found in the second edition of his "*System of Practical Surgery*," published in the early part of 1846. In my case, the necessity of some new procedure induced me to think upon the subject; and I had recourse to the very method of study recommended in the paper to which I allude. Using a needle and thread with a piece of lea-

ther or cloth, I demonstrated to Mr. Beale the effect of the proceeding, before employing it on the disease; and when we came to apply it in practice, its contemplated advantages in especially meeting the difficulties of the case under treatment, were most satisfactorily manifest; particularly one to which, in addition to those already referred to, the attention of surgeons is now invited. When a ligature has been carried beneath a tumor in the manner I have described, and as illustrated by the diagram, the disease being situated in a cavity, the ends with which the knots are to be made are brought into the most convenient position for being readily and securely tied, all of them lying as little within the cavity as the circumstances of the case will permit, and being, consequently, as accessible to the surgeon as possible. The facility, therefore, with which he is enabled to accomplish his object is only equalled by the effectual manner in which it may be completed.

Guilford Street, Russell Square,
London, May 1st, 1847.

SPREAD OF FEVER IN LIVERPOOL.

We regret to state that fever is upon the increase. On Saturday there were 20 cases of this disease in the parish, and 20 additional in Toxteth-park, for which room could not be found in the hospitals and sheds. We understand that the guardians of Toxteth-park are to meet for the purpose of considering the propriety of renting some fields at the extremity of the borough from the Earl of Sefton, on which to erect sheds for the accommodation of the fever patients who are daily applying for admission into some receptacle in that locality. Within the last few days, the Yorkshire, a ship which left the port with about 400 emigrants for America, returned, after running down the Irish Channel as far as Wexford, and now lies in the Brunswick Graving Dock for repairs. Yesterday it was ascertained that fever had made its appearance among about 10 of the children of the emigrants on board, and the alarm which prevailed was exceedingly great. The officers of the parish were applied to, with the view of getting the patients into one of the hospitals or sheds; but these being full the application was of no avail. We believe, however, that at an early hour this forenoon they will be conveyed on board the Akbar lazaretto, the fitting up of which has been all but completed.

MEDICAL GAZETTE.

FRIDAY, JUNE 4, 1847.

ABOUT a year since, we announced that Dr. M'William had been sent by the Government to Bona Vista, to make a full inquiry into all the circumstances connected with the alleged importation of fever into that island, by Her Majesty's steam-vessel, the *Eclair*. Good judgment was shewn in the selection of Dr. M'William for this important inquiry;—the experience which he had already acquired by his services in the Niger expedition, rendered him peculiarly well fitted for the task: and even those who knew that his opinions were decidedly adverse to the propagation of African (river) fever by contagion; and who, at the same time, believed that the disease which decimated the population of Bona Vista had been introduced by the *Eclair*, were quite willing to place confidence in him, and to look for an impartial execution of his commission. In this estimate of his character, we think they will not be disappointed. The Report, recently presented to the House of Commons, shews that with much patience, at great personal risk, and with unbiassed views, he has collected, by the oral examination of witnesses on the spot, a body of evidence which is likely to set at rest for ever the question of the contagious nature of the *Eclair* fever. Some of our contemporaries had already prejudged the question, and, notwithstanding the authentic details laid before Parliament, had decided, if we mistake not, that the arrival of the *Eclair* and the breaking out of the fever at Bona Vista, stood in the relation of a mere coincidence; and as a gentleman, denominated an anti-contagionist, had been appointed to make the inquiry, they anticipated that his

report would only confirm the opinion which they did not hesitate to express, *i. e.*, that the fatal fever had a purely local origin, and that it had become aggravated in its characters by unusual atmospheric influences.

We have already given a full analysis of the documents in relation to this subject, which were presented to Parliament in the early part of 1846;* but it appears that further evidence was required, in order to determine between the conflicting views entertained by Sir W. Pym, the Superintendent General of Quarantine, and Sir W. Burnett, the Director General of the Medical Department of the Navy. This difference of opinion on the contagious or non-contagious character of the *Eclair* fever had an important practical bearing on the enforcement of quarantine; and our readers are aware that, pending the inquiry, the Government, notwithstanding some opposition to their proceedings, took the safe side, and prevented intercourse with the pestilential ship.

Before entering into details, we may state that Dr. M'William has recently made a report, which we think will prove satisfactory to all readers whose belief on the subject of contagion is still open to conviction by the arguments derived from a well-arranged and honestly conducted inquiry. From this report we learn, first, that, beyond all doubt, the fever (whatever denomination we may apply to it) was introduced into the island of Bona Vista by the *Eclair*; secondly, that it spread through the island by contagious propagation where there was freedom of intercourse; and thirdly, that it did not diffuse itself where precautions were taken to avoid any direct or indirect communication with the sick, or with those who had attended on the sick.

* See vol. xxxvii. pages 1041, 1063; and vol. xxxviii, page 24.

Such, then, is in substance the evidence furnished to us by the report of Dr. M'William; and it is not a little remarkable that at the very time (May 1846) when the greater number of the facts leading to the above important conclusions had been collected by the reporter, and he was in the act of witnessing the re-appearance of the fever at Moradinha, a village on the island, from the personal intercourse of an inhabitant with an infected quarter, Dr. Bowring brought forward in the House of Commons, his motion for a relaxation of the quarantine laws. Singularly enough, this gentleman rested the strength of his argument for their abolition upon the opinions entertained respecting African fever by Dr. M'William! We here quote the remarks of the honourable legislator, who is well known as the strenuous advocate of free commercial intercourse, and as being violently opposed to the theory of contagion, and the practice of maintaining quarantine restrictions, in any shape whatever. He observes:—

"But what were the opinions entertained by proper authorities as to the disease itself? Dr. M'William, who was appointed to investigate the case, altogether repudiated the theory of contagion. In his interesting report on the Niger expedition, where among 145 whites, not less than 130 were attacked by the fever, of whom 40 died, he stated that all were exposed to the same influences,—that two only of the medical officers who died, had been in attendance on fever patients,—others escaped who had been in constant intercourse with the sick; and no fact came before his notice affording the slightest evidence that the disease was communicated from one person to another" (*)

There are two other statements made on the same occasion by the honourable member, which we are desirous of quoting, in order that we may hereafter place them in contrast with

the conclusions arrived at by Dr. M'William. Reasoning by analogy from what he has read and heard of the plague, Dr. Bowring denied the possibility of contagion being communicated by articles of dress or clothing:—

"All these garments (of persons who had died of the plague) the Commissioners said lost the power of communicating the disease, when subjected to a certain amount of heat; but it would have been more satisfactory if they had ascertained whether *under any circumstances* such garments ever did or ever could communicate the plague, even when not subjected to the heat at all."

As to the obnoxious quarantine regulations—

"He had seen again and again, that a crew arriving in perfect health had perished from being delivered over to the tender mercies of the sanitary laws."

Mr. Hume suggested that—

"To abolish these laws would be a step not only in *humanity*, but towards *free-trade*."

And Mr. Mackinnon, from his own experience in the Mediterranean,

"Had arrived at this curious fact respecting the plague, that whenever the thermometer rose above 80°, the plague ceased, and the yellow fever began. There was evidence, also, that a certain degree of cold put a stop to the plague. It was between the temperatures of 70° and 80° that the plague raged. Therefore, for eight months in the year, our quarantine regulations were perfectly futile. If the quarantine regulations had not been in existence, he sincerely believed that one half of the persons who perished in the *Eclair* would have been saved!"

We have often wished, when medical subjects arose for discussion in the House of Commons, that the Right Honourable the Speaker had already qualified himself professionally by taking out the degree of M.D.; or, if this were considered incompatible with the official position, that he should at least be allowed to have impartial medical

* Parliamentary Report, Times, May 19, 1846.

assessors sitting by his side, who should be permitted to inform the House, when honourable gentlemen were dealing rather too freely with *medical* facts and doctrines, in support of their views of free trade. Dr. Bowring might then, for instance, have been informed that Dr. M'William's experience prior to his visit to Bona Vista, referred to a comparatively mild description of fever prevalent in the African rivers, and known as river fever. We do not concern ourselves with the question whether this fever is or is not communicable by contagion: the Eclair fever was of a totally different character, as the Report now published clearly proves; and Dr. M'William has arrived at a conclusion respecting this malady, the very reverse of that upon which Dr. Bowring relied for an abolition of quarantine: hence, as the honourable legislator accepts him as an all-sufficient authority in the one case, he of course cannot object to him in the other; or, should he now make an objection to his very unprejudiced testimony on this important question, we are satisfied that he will receive no support from those who look to the *medical*, and not to the merely *commercial*, view of the subject.

The great risk to which the health of a nation is exposed, by the propounding in our Houses of Legislature, of crude medical theories upon imperfect or insufficient knowledge of the medical bearings of a question, was never, perhaps, more strikingly displayed. The views of a professional man with respect to one form of disease, are thus by a non-professional legislator made applicable, without the risk of refutation, to different diseases, or to widely different forms of disease. While a medical officer is actually engaged in acquiring information, and in adding to his experience on a fatal malady, his opinions on some other

subject are allowed to be quoted as applicable to circumstances of an entirely different nature, and to be brought forward as a justification of hasty and precipitate legislation.

Another honourable gentleman lays down the exact temperature at which we are to have the plague or yellow fever; and we infer from his view of the subject that quarantine should be regulated by the thermometer, taking perhaps, according to the system adopted in the Corn-laws, a six weeks' average, and admitting vessels to pratique or not, according to the height of the mercury with respect to the yellow fever and plague degrees! Nothing can be more preposterous than thus dealing with complex and intricate medical questions, especially when the results of legislation are likely to have a serious influence on the sanitary condition of a nation. A medical assessor might have informed the House, in answer to this gentleman, that the great plague of 1665 caused in this metropolis an enormous destruction of life in spite of the thermal laws by which he considers its diffusion to be limited; and that the fatality of the devastating Asiatic cholera, from the jungles of Bengal to the snowy wastes of Scandinavia and Iceland, has taught professional men that they have no certain rules by which they can *à priori* determine how far, in what degree, and in what direction, these fearful maladies will extend themselves! The advocates of unrestricted commercial intercourse have it, however, in their power to enforce their arguments in a legislative assembly by the most untenable medical assumptions; and we are compelled to confess with regret, that they are encouraged in this course by the prejudiced views of some professional men.

Under these circumstances, it is

satisfactory that we have now before us, in Dr. McWilliam's Report, a case by which the soundness or unsoundness of these mixed medical and commercial opinions may be fairly tested. It has been announced by Government that the subject of quarantine will probably come under the consideration of the Legislature in the next session of Parliament. These circumstances will justify a full analysis of the Report before us. We shall, however, reserve this for another occasion.

Reviews.

Treatise on Fractures in the vicinity of Joints, and on certain Forms of Accidental and Congenital Dislocations. By WILLIAM SMITH, M.D. M.R.I.A. Lecturer on Surgery at the Richmond Hospital School of Medicine, &c. 8vo. pp. 314. Hodges and Smith. Dublin: 1847.

We must confess that when we first opened Dr. Smith's Treatise we were strongly disposed to believe that the subject of fractures occurring in the immediate neighbourhood of the larger joints had received its full measure of attention from surgical writers, and had, in fact, been rather over-written than otherwise. Indeed, even a passing glance over the formidable list of works in which the subject of these fractures is more or less fully dwelt upon, appended to Dr. Smith's volume, might well have deterred any surgeon of less experience and narrower powers of observation than fall to the share of that gentleman, from attempting to elicit any original and important deductions from the consideration of so hackneyed a question. A further acquaintance with the Treatise has, however, convinced us that Dr. Smith has judged wisely in the selection of this subject as the basis of a practical work, for in doing this he has brought forward a great deal of interesting and valuable surgical information, and has succeeded in deducing from his own experience, backed by that of other investigators, a considerable number of practical conclusions which we believe will be found to be equally acceptable to the surgeon and to the student.

In his prefatory remarks, Dr. Smith observes that his object has not been to present to the notice of the profession a systematic treatise on fractures and dislocations, but to direct attention to the most difficult portion of it—fractures in the vicinity of the joints; and even here he has limited himself to the consideration of those of which he has had most experience, the differential diagnosis of which he finds to be attended with the greatest difficulty, and whose anatomical characters he has had the most frequent opportunities of investigating.

The work is divided into ten chapters, which are devoted to the following subjects:—Diagnosis and Pathology of Fractures of the Neck of the Femur; Chronic Rheumatic Arthritis of the Hip Joint (an interesting chapter, which is introduced here on account of the resemblance which the various forms of this disease bear to certain of the injuries to which the hip-joint is liable); Fractures of the Bones of the Fore-Arm in the vicinity of the Wrist-Joint; Fractures of the Humerus in the vicinity of the Shoulder-Joint; Fractures of the Acromial Extremity of the Clavicle; Dislocations of the Bones of the Foot; Congenital Luxations of the Wrist-Joint; Congenital Dislocations of the Shoulder; Dislocations of the Lower Jaw. To these are added, some further observations on Fractures of the Radius. Dislocations of the Bones of the Foot, and Congenital Luxation of the Wrist-Joint.

The principal part of the chapter on Fractures of the Cervix Femoris is devoted to that most important subject (as affecting the credit of the surgeon), the means of diagnosing that injury from the other accidents and diseased states with which it is liable to be confounded: we have been much pleased with the lucid and practical manner in which this subject has been treated by the author, but his arguments are too extended to admit advantageously either of condensation or extract. Dr. Smith is of opinion that fracture of the neck of the femur external to the capsule is always associated with injury to the trochanter—a conclusion for which we were not altogether prepared. He remarks:—

“I believe that all extra-capsular fractures are, in the first instance, also impacted fractures, and that all impacted fractures are

necessarily accompanied by a fracture traversing some part of the trochanteric region. I have omitted no opportunity of investigating this point, and have now examined, here and elsewhere, upwards of one hundred specimens of extra-capsular fracture, and have found in all, without a single exception, a second fracture, traversing some portion of the intertrochanteric space. * * *

The second fracture usually begins near the centre of the summit of the trochanter major, passes from thence downwards and inwards, following in general the convexity of the intertrochanteric space, and either terminates before it reaches the lesser trochanter, or else it is continued through the centre, or below the base of that process. Sometimes it is a fissure which splits either one or both trochanters without detaching any portion of either. * * * This second lesion of the bone is the necessary result of the forcible impaction of the broken cervix into the shaft of the femur, and it is probably the second fracture in order of time. What occurs appears, in fact, to be this: the neck of the femur is, in the first instance, broken by the fall upon the hip, and then driven into the cancellated tissue between the trochanters by the weight of the body, and the prolonged action of the first shock; but, as soon as the neck of the bone is broken, the femur is rotated outwards, even before the action of the first impulse has ceased; thus the posterior intertrochanteric ridge, being thrown forwards, is forcibly drawn against the back of the femur; two forces, therefore, combine to produce the fracture through the intertrochanteric space, one of which consists in the impaction of the cervix into the shaft, while the other is found in the collision which takes place between the broken neck of the bone and the posterior intertrochanteric ridge. The impaction of the superior fragment is in itself, however, not only capable of producing the second lesion of the bone, but is the chief cause of it, especially in those cases in which the neck of the bone is driven into the cancellated tissue between the trochanters, leaving the greater part of the inferior fragment in front; for in such cases the broken cervix is driven directly against the ridge connecting the trochanters posteriorly, which it breaks off by its wedge-like action alone; and, moreover, this second fracture is as constantly present in cases attended with rotation of the foot inwards."

We have no doubt that in certain cases of this description impaction of the fractured extremities of the bone does occur, and is productive of the consequence described by Dr. Smith, but we are not prepared to agree with

the author, that in even a majority of these instances anything at all approaching to a positive impaction of the fractured ends is produced. In many of these cases the osseous structures have been reduced by previous atrophy to far too spongy and friable a condition to permit such a mechanical adaptation of the parts to occur, and in the majority of the recent specimens of the kind which we have had an opportunity of examining, the entire injury appeared to be the result of a severe shock, under which each portion of the bone had simultaneously given way.

Dr. Smith sides with those pathologists who maintain the possibility of the establishment of bony union in cases of fracture of the neck of the thigh-bone within the capsular ligament. He argues, that Cruveilhier and Mr. Bransby Cooper are in error in supposing that the effusion of callus around the fragments is necessary for the union of such a fracture; and altogether dissents from the opinion which maintains that the ends of the broken bone take no part in accomplishing osseous union. He, however, considers it to be "highly probable that, in the cases which have hitherto been published as undoubted specimens of the bony consolidation of the intracapsular fracture, there has been a material interlacing of the fragments, whereby they have been maintained in apposition: at all events, it is under such circumstances that a firm bony union is most likely to occur; for, as remarked by Desault, it is a principle that will not admit of controversion, that to effect consolidation nature demands the fractured portions to be approximated, and, at the same time, to be at rest.

Appended to these remarks are the details of the principal recorded instances of (supposed) bony union of intracapsular fractures of the cervix femoris; but we must confess that neither the author's arguments, nor a re-perusal of these cases, nor an examination of the beautiful wood engravings with which they are illustrated, have had the least effect in removing our previous conviction, founded upon long practical observation, that no perfectly satisfactory proof has hitherto been adduced of the possibility of the occurrence of complete osseous union in cases of intra-

capsular fracture of the neck of the thigh-bone.

The following is a selection from the practical conclusions which the author deduces from the facts and opinions stated in this chapter :—

"A slight degree of shortening, removable by a moderate extension of the limbs, indicates a fracture within the capsule.

"The amount of *immediate* shortening, when the fracture is within the capsule, varies from a quarter of an inch to one inch.

"The degree of shortening, when the fracture is within the capsule, varies chiefly according to the extent of laceration of the cervical ligament.

"It also varies according as the fracture is impacted or otherwise.

"In some cases of intracapsular fracture the injury is not immediately followed by shortening of the limb.

"This is generally to be ascribed to integrity of the cervical ligament.

"In such cases shortening may occur suddenly at a period more or less remote from the receipt of the injury.

"This sudden shortening of the limb is in general to be ascribed to the accidental laceration of the cervical ligament, previously entire, and is indicative of fracture within the capsule.

"When osseous consolidation occurs in the intracapsular fracture, it is effected by the direct union of the broken surfaces, which are confronted to each other. The degree of shortening, when the fracture is external to the capsule, and does not remain impacted, varies from one inch to two inches and a half.

"When a great degree of shortening occurs immediately after the receipt of the injury, we usually find a comminuted fracture external to the capsule.

"The extracapsular fracture is accompanied by fracture with displacement of one or both trochanters.

"The extracapsular *impacted* fracture is accompanied by fracture without displacement of one or both trochanters; in such cases the fracture of the trochanters unites more readily than that of the neck of the bone.

"The degree of shortening in the extracapsular impacted fracture varies from a quarter of an inch to an inch and a half.

"The exuberant growths of bone met with in these cases have been erroneously considered to be merely for the purpose of supporting the acetabulum and the neck of femur.

"The final cause of their formation is the union of the fracture through the posterior intertrochanteric space.

"The difficulty of producing crepitus, and of restoring the limb to its normal length, are the chief diagnostic signs of the impacted fracture.

"The position of the foot is influenced principally by the obliquity of the fracture, and the relative position of the fragments.

"Inversion of the foot may occur in any of the varieties of fracture of the neck of the femur.

"When the foot is inverted, we usually find that either a portion or the entire of the extremity of the lower is placed in front of the superior fragment. In cases of comminuted extra-capsular fractures, with fracture and displacement of the trochanters, the foot will generally remain in whatever position it has been accidentally placed; it may be turned either inwards or outwards, or there may be inversion at one time and eversion at another.

"Each particular symptom of fracture of the neck of the femur, separately considered, must be looked upon as equivocal; the union of all can alone lead to the formation of a correct opinion as to the nature and seat of the injury."

A large proportion of the chapter on "Fractures of the Fore-arm in the vicinity of the wrist-joint," is devoted to an investigation of the nature and treatment of the injury which was first fully described by the late Professor Colles, in the 10th volume of the Edinburgh Medical and Surgical Journal, and which consists of fracture of the lower extremity of the radius, close to the wrist-joint, with displacement of the lower fragment backwards. With regard to the management of these cases, the author remarks :—

"In the treatment of Colles's fracture the object most difficult to be accomplished is, to restore to the carpal surface of the radius its natural direction forwards, and thus render the posterior surface of the bone longer than the anterior, as it is in the natural state. The upper and lower fragments of the radius should be pressed in opposite directions, the former backwards and the latter forwards, but the principal amount of pressure should be exerted upon the inferior fragment. The use of a curved splint, which preserves the hand in a state of moderate adduction, supersedes the necessity of employing the ulnar splint of Dupuytren. The object proposed to be attained, by keeping the hand in this position, is to restore to the carpal surface of the radius its normal direction inwards."

A few more extracts from the con-

clusions appended to each section will best convey an idea of the materials of which the fourth and fifth chapters are composed :—

"There are two varieties of the impacted fracture of the upper end of the humerus, one situated external to, and the other within the capsular ligament; the former may pass either through the tubercles or through the line which, in the young subject, marks the junction of the epiphysis with the shaft; the latter traverses the anatomical neck of the bone.

"In the former, crepitus is not elicited without the application of considerable force; in the latter, it can be produced with comparative facility.

"The intracapsular impacted fracture is generally accompanied by a fracture of one or other, or of both tubercles, and is so far analogous to the extracapsular impacted fracture of the neck of the femur, with fracture of one or other or of both trochanters.

"Each variety is capable of uniting by bone.

"In the intracapsular variety, the circumstance of the fracture being accompanied by impaction, materially increases the probability of the occurrence of osseous consolidation.

"When osseous union occurs in this variety of fracture, the process of reparation is accomplished by the lower fragment principally.

"In the intracapsular fracture, without impaction, the head of the humerus may perish from want of nutrition.

"In such cases disorganisation of the joint may ensue as the result of the processes by which the elimination of the dead bone is accomplished.

"In the intracapsular fracture, the head of the bone may become reversed in the articulation, and its cartilaginous surface be brought into contact with the broken surface of the lower fragment.

"When this happens, the cartilage unites very imperfectly with the cancellated tissue of the inferior fragment.

"In the intracapsular impacted fracture the deformity is greater than in the extracapsular.

"The diagnosis of the extra-capsular impacted fracture is most difficult: the evidence of its existence is chiefly of a negative character.

"The most important diagnostic signs of the intra-capsular impacted fracture are, shortening of the limb, approximation of the upper end of the shaft or tubercles to the acromion process, flattening of the shoulders, crepitus, and an impossibility of feeling the entire head of the bone.

"Each variety of the impacted fracture unites with deformity.

"In the intracapsular impacted fracture the removal of the deformity would diminish the probability of the occurrence of osseous consolidation."

The following are the author's principal conclusions with reference to fractures of the acromial extremity of the clavicle :—

"When the clavicle is broken between the coraco-clavicular ligaments there is seldom any displacement of either fragment, and always much less than in fracture of any other portion of the bone.

"When displacement does occur, it is usually limited to a slight alteration in the direction of the bone, by which the natural convexity of this portion of the clavicle is increased.

"In cases of fracture between the trapezoid ligament and the acromio-clavicular articulation, the displacement of the outer fragment is in general considerable, its inner extremity being drawn upwards.

"This displacement is frequently carried to such an extent that the fragments form a right angle with each other; and it is principally due to the action of the clavicular portion of the trapezius muscle.

"The entire of the outer fragment is also generally drawn forwards and inwards, sometimes to such a degree as to bring the broken surface of the external into contact with the anterior margin of the internal fragment. The reticular structure of the former unites, in these cases, with the compact tissue of the latter.

"The displacement of the outer fragment forwards and backwards is owing to the revolution of the scapula upon its axis, and to the action of the muscles passing from the chest to the arm.

"The derangement, as regards the thickness of the bone, is very slight, so that there can scarcely ever be any overlapping of the fragments.

"In consequence of the displacement, as regards the direction of the bone, the clavicle is shortened by this injury.

"In cases of fracture external to the conoid ligament, osseous matter is freely formed upon the under surface of each fragment, but there is seldom any deposited upon the upper surface of either.

"These osseous growths, occupying the situation of the coraco-clavicular ligaments, frequently assume a determinate form, and constitute a prop or buttress, which rests upon the root of the coracoid process. It is usually convex posteriorly, concave in front, and slightly notched inferiorly; in some cases it reaches down to the notch of the scapular. In some rare instances, these

osseous formations unite with the coracoid process, and anchylosis is thus established between the scapula and the clavicle.

"In cases of fracture external to the trapezoid ligament the amount of external deformity is seldom proportionate to the extent of the displacement of the outer fragment of the bone."

We regret that the space occupied by the above extracts is too great to admit of our giving an analysis of the chapters on congenital dislocations of the wrist and shoulder-joints, and on the various forms of dislocation of the lower jaw; but we trust that the value of the passages which we have quoted will induce our readers to procure the work, and to search there for others of equal importance. We can assure them that a perusal of the entire treatise will leave them no just grounds for disappointment.

Proceedings of Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, May 11th, 1847.

J. M. ARNOTT, F.R.S. PRESIDENT.

Case of Cyanosis, with a Description of the Appearances presented on Dissection. By F. LE GROS CLARK, Assistant-Surgeon to St. Thomas's Hospital, and one of the Secretaries of the Society.

W. B—, aged nineteen, shoemaker, was admitted into St. Thomas's Hospital in July 1846. He was of spare make, and his complexion was remarkably livid; skin cold and dry; lips swollen and blue; he suffered from urgent cough and extreme dyspnoea, especially in the recumbent posture; the superficial veins of the neck were distended, and there was, at times, a jugular pulsation; pulse quick and labouring; the impulse of the heart was natural, but its sounds were superseded by a very loud, prolonged, systolic bruit, heard over the whole region of the heart, but most especially over the aortic valves; the sound, however, did not extend beyond its arch, in the direction of the aorta, but spread out laterally from the point where it is heard in its greatest intensity, with an equal degree of force along the course of the left branch of the pulmonary artery, to the periphery of the chest. The sound was also heard on the right side but to a more limited extent; there was, also,

a systolic bruit over the apex of the heart. These symptoms were unrelieved by treatment, and he died on January 3rd, 1847.—*Autopsy*: The liver was large and dense; the spleen was thrice its ordinary bulk, but apparently unaltered in texture; the lungs presented tubercles at different parts; the heart was large; the left side presented no abnormal appearance of consequence, but the right auricle (especially its appendix) was much dilated, and there was an oblique communication between the auricles; the walls of the right ventricle were much hypertrophied, being nearly twice as thick as those of the left, and the cavity itself was slightly encroached upon. In place of the usual arterial outlet from this ventricle, there was a contracted circular aperture, about the diameter of a writing-quill, which communicated with a small muscular chamber or compartment between the ventricle and pulmonary artery—the long axis of the ventricle itself being curtailed to a corresponding extent. Above this aperture there was a second outlet from the ventricle, of similar form and size, which opened into the angular interval between two of the aortic semilunar valves. The canalis arteriosus was short, and closed by what appeared like a patch of organized lymph in the pulmonary artery. The bronchial arteries were unusually large and tortuous, as was also the arteria comes nervi phrenici, which terminated in the lung. The author remarks that the symptoms during life were satisfactorily accounted for by the post-mortem appearances—the dilatation of the right auricle and hypertrophy of the corresponding ventricle being dependent on the obstructed arterial outlet from the latter. The morbid condition of the liver and spleen he considered as probably indicative of some function performed by these organs vicariously of the lungs; and that the large size of the bronchial arteries was due to the exigencies of the lungs, dependent on the obstruction of the circulation through the pulmonary system of vessels.

Case of Encephaloid Disease of the Brain, inducing Amaurosis. By J. DALRYMPLE, Esq., Surgeon to the Moorfields Ophthalmic Hospital.

Miss B—, about 28 years of age, had been totally blind about four years; but the ocular symptoms date nearly a twelvemonth previous, commencing with dimness of vision in one eye, and gradually involving both in total darkness. There were no morbid appearances in either eye, and with the exception of the iris being sluggish, there was little to indicate the extent to which the blindness had proceeded, for the pupils were never much dilated, and never wholly lost the power of contraction.

About the time Mr. Dalrymple first saw the case, there were obscure symptoms of some disease of the brain, severe pains at the back of the head, some partial numbness of one side of the face, and occasional jerking of the muscles of the right arm and leg. These symptoms entirely disappeared under a full course of mercury, and never returned in any noticeable degree. The blindness, however, continued. By careful dietetic and hygienic treatment, Miss B. enjoyed good health, only complaining of occasional vertigo, and subject to frequent attacks of "faintishness," which occurred at irregular intervals, and lasted but for a few minutes. In the first week of Feb. 1847, this lady died suddenly, with little or no premonitory symptom or illness. On examination of the body the day after death, a large encephaloid tumor was found at the base of the brain, involving the chiasma of the optic nerves, and extending back as far as the pons Varolii: it then entered the middle lobe of the brain, as high as the level of the lateral ventricle, on the right side, which it compressed and nearly obliterated. The left side of the brain was healthy. The third nerve, on the right side, passed through the tumor; and the fifth nerve, on that side was partially overlapped by it. No other nerve suffered by its pressure. This lady had an attack of measles three years previous to the development of any ocular symptoms. This attack was very severe, accompanied by delirium, strabismus, and dimness of vision; and although it was supposed she had entirely recovered from this illness, the author of this paper surmises the origin of the encephaloid disease may be referred to the cerebral inflammation which occurred at that time.

Mr. W. W. COOPER complimented the author of the paper on his diagnosis in this case, and remarked, that the diagnosis of the cause of amaurosis was often very difficult. He related the case of a young gentleman, who was attacked with symptoms of failing sight, without apparent cause. The right eye was at first affected, but the left soon became involved, and the patient became quite amaurotic. He eventually lost the senses of smell, hearing, and of sight. The diagnosis was tumor of the brain, but, after death, no tumor of that organ was discovered, but it was found in a softened state, and the optic sheaths were full of a soft matter. He also related the case of a man, who had amaurosis from cerebral disease, in which the only symptoms of disease of the brain were, loss of memory and a vacant expression of the face. There was no hemiplegia. He alluded to cases of amaurosis in which there was no appreciable diseases of the eye or brain.

Mr. C. HAWKINS had brought down a

preparation to the Society, under the impression that Mr. Dalrymple's was a case of amaurosis dependent on disease of the brain, which exhibited no symptoms during life. In this, however, he was somewhat disappointed. In his (Mr. Hawkins') case, the patient was about 26 years of age, and was admitted into St. George's Hospital in September 1843, being nearly blind from amaurosis, having just sufficient sight to find his way about. There were the usual symptoms of congestive amaurosis, with pain of the head and fever, but no other symptoms of inflammation. The pain in the head began twelve months previously, and increased at the expiration of six months, but left him before his admission into the hospital. Leeches, cupping, and blisters were applied, and sometimes it was thought he might get well, as there was occasionally a little amendment. After the symptoms of simple congestion, he became subject to fever and occasional pains in the head, until February; the attacks of headache were then attended by sickness, and disease of the brain was for the first time suspected. He had, subsequently, three attacks of fainting, stertorous breathing, and coma, which terminated fatally in three or four hours. The application of a seton had afforded some relief in this case. After death the amaurosis was found to have been dependent on the presence of a cerebral tumor, no evidence of whose existence, with the exception of the amaurosis, had been exhibited, until three weeks before death.

Dr. MAYO related a case of amaurosis, which came on in a boy of 14 years of age, of a "congestive constitution," who had had lung affection, and subsequently fulness of the head. These were treated and removed, and amaurosis came on. For this, mercury was administered and setons employed; the only benefit, however, seemed to result from the use of mercur, but this was only temporary. The mercury at first seemed to do good, but it shook the constitution. The case was afterwards treated as one of cerebral disorder consequent upon asthenic causes. All remedies failing in giving relief, the patient was eventually cured by a total abstinence from animal diet for three entire years.

A member got up and inquired whether Dr. Mayo always treated amaurosis with mercury.

Mr. DALRYMPLE said that amaurosis depended on a variety of causes, and no practitioner would think of treating all cases with mercury. In the case he had brought before the Society, it would have been little short of madness to have employed mercury; the patient required, and had administered to him, quinine and steel, and was placed on good diet, embracing porter and beef. Mer-

cury was useful when symptoms of cerebral inflammation attended the disease. His object in bringing the paper forward was not to raise a discussion on so extensive a subject as amaurosis generally, but to fix the attention of the Society on this case, which was not simple amaurosis, but one dependent on cerebral disease, unaccompanied with the usual symptoms of that condition; for though at first there were some indications of cerebral mischief, they all disappeared after salivation, and never recurred, with the exception of occasional faintness, like the epileptic aura, and this was not well marked.

A Case of Tetanus following a Lacerated Wound of the Cornea; with a Table of Cases of Tetanus which have occurred in St. George's Hospital since January 1841.
By GEORGE POLLOCK, F.R.C.S.

J. S—, aged thirty-three, was admitted into St. George's Hospital, under Mr. Keate, on the 10th of January, 1847. He had that morning received a cut from a gig whip on the left eye, which lacerated the cornea, dividing it through its entire thickness, and extending obliquely across from one margin nearly to the other. The aqueous humour had escaped, but there was no prolapsus iridis, and but little pain or chemosis. Goulard's lotion was applied, and an antimonial and aperient saline ordered every six hours. On the following day the lids were distended and tense, and there was great chemosis, the conjunctiva almost hiding the cornea; the pain also was great in the globe and forehead. Six leeches were ordered to the left temple and warm fomentation. The above symptoms were still further aggravated on the following day, when several punctures were made in the upper lid, which afforded immediate relief. On the third day, the leeches were repeated, and three grains of calomel and half a grain of opium was ordered twice in the day. On the sixth day, the visible portion of the cornea was cloudy; and on the seventh there was purulent discharge from the tense and projecting globe. On the evening of the same day, the muscles of the face on the right side appeared contracted, and the patient complained of stiffness about the jaws. On the ninth day, trismus was fully established, and the hemiplegic condition of the face had become more distinct. He had been blistered and cupped on the previous day. A puncture was made into the projecting globe, and gave exit to some foul pus. General tetanic symptoms subsequently supervened, and he died on the following morning, an ineffectual attempt having been made to affect him with the vapour of ether. On examining the body, the vessels within the cranium seemed to be congested; as were those of the mucous

membrane lining the larynx and pharynx. The liver and kidneys were also gorged with blood. The globe of the affected eye was completely disorganized, its different component structures being scarcely at all distinguishable. The author considers the above case interesting from its extreme rarity, as he is unaware of any record existing of a similar lesion producing corresponding results. The apparent paralysis of the face he also regards as an interesting complication, and it was unexplained by the post-mortem examination. The irritation and distress occasioned by the attempt to administer the vapour of ether were such as to forbid perseverance in this endeavour to relieve the patient's frightful sufferings. In the tabular view which the author gives of ten other cases of tetanus admitted into St. George's Hospital since 1841, it appears that only two recovered. Seven of the fatal cases were traumatic, and the symptoms of the disease declared themselves within three weeks of the receipt of the injury, with one exception. In four cases the brain was rather congested, and in one there was softening of the spinal cord. The author remarks, that no satisfactory conclusions can be drawn from the treatment of these cases, both opium and Indian hemp having proved uncertain and unsatisfactory remedies.

Mr. STREETER could but regret that a paper on so important a disease as tetanus should be read at so late an hour as to prevent discussion. [It was just ten o'clock.]

The PRESIDENT observed that he wished for discussion, and would continue the meeting as long as the fellows were disposed to keep it up.

Mr. STREETER would then direct attention to the statement in the paper that the cornea was insensible, and to the well-known fact, that injury of the fifth pair of nerves at its origin, was followed by destruction of the cornea. In the case just related, the converse of this had taken place. An injury of the cornea had been transmitted inwards, and had led to tetanus—a disease apparently of the cerebral parts of the nervous system. He thought all these instances of the reciprocal influences which undoubtedly existed between the central and the peripheral parts, should be most carefully studied, for the purpose of throwing light upon the physiology of the nervous system, and with the hope of contributing somewhat towards the establishment of a more successful treatment of this distressing, and hitherto intractable, disease, than surgeons had as yet devised.

Mr. BOWMAN suggested, that the destruction of the cornea just alluded to, might arise from inflammation set up in consequence of the loss of that closing power of the eyelids which was essential to the pro-

tection of the eye, and not from injury to its inherent nutritive power.

Mr. STREETER had not alluded to the slow destruction that arose from chronic inflammation, but to the more rapid sloughing of the cornea which followed injury or disease of the fifth pair at its origin, or in any part of its course. An instance of this, he believed, had been related by Mr. Stanley, in the *Transactions* of the Society. And he himself had ventured to diagnose during life, that the cause of paralysis of the portio dura, in a particular instance, was disease within the skull, involving the common origin of the fifth and seventh pairs, because sloughing of the cornea set in shortly after the paralysis of the facial muscles, and an examination after death proved this diagnosis to have been correct.

Mr. DALRYMPLE objected to a common origin being assigned to the fifth and seventh pair, and imagined Mr. Streeter must have meant to allude to the experiments of Magendie. The tetanus, in this instance, seemed to him to be referable to the violent secondary attack of inflammation of the globe, and the extension of irritation to the ciliary nerves, rather than to the primary injury of the cornea. With reference to the sensibility of the cornea, he believed it possessed it, and branches of the ciliary nerves had been stated to have been traced to it by continental anatomists.

Mr. BOWMAN expressed his concurrence in these remarks.

Mr. LEE believed that a correspondence in time existed between the infliction of injury and setting in of the tetanic symptoms, and that interval which elapsed between local phlebitis and the occurrence of the general symptoms of contamination. Was there any analogous poisoning of the blood produced?

The PRESIDENT closed the meeting by observing that the number of papers compelled their being read occasionally at a later hour than might seem advisable; otherwise they could not be read at all; and at the last night only the titles could be given—a course of proceeding by no means satisfactory to authors who had been at the trouble of preparing papers.

MEDICAL SOCIETY OF LONDON.

Monday, May 17, 1847.

Mr. DENDY, President.

DR. MARSHALL HALL read a paper on

The Convulsive Affections of Infants and Children.

The author began by alluding to the dangers attendant on infantile convulsion, to its consequences to mind, limb, and life,

and to the possibility of idiocy, or liability to epilepsy, being its result. He then made reference to the causes, forms, and effects of such convulsions, and the mode by which they are induced; and then proceeded more particularly to consider them. He dwelt especially on—

1. *The terms employed* to designate certain forms and symptoms of them; and on one especially, laryngismus stridulus, which the author contended was no more a disease than cough was a disease, or “any other symptom of disease was a distinct disease.” He said, that laryngismus was not always stridulous, but depended on the same causes, whether it was or was not so; the most dangerous forms of it were those which were noiseless. He would associate this symptom, which was certainly one of great peculiarity and danger often, with contraction of the hand, which he would call chirismus, and with that of the foot, which he would style podismus; the term sphincterismus, too, might be applied to spasm of the sphincter ani, or neck of the bladder. “Let the termination in *ismus* be used only to designate a symptom, and that of a purely nervous or convulsive character.”

2. *The predisposition* to convulsive affections, and laryngismus more especially, was very marked. The latter had been known to affect a whole family. The cause of such predisposition is obscure: was it hereditary? was it the effect of locality, or emanations from the soil?

3. *The causes.*—No irritation of the cerebrum or cerebellum could immediately produce muscular spasm, as experiment had shown again and again. But irritation of the membranes of the brain might excite it, as appeared from an experiment which he had performed, and recently detailed. Irritation of the medulla oblongata, or medulla spinalis, produced the most frightful spasms. The incident nerves, when affected at their origin in the cutaneous, mucous, or other tissues, were the most frequent source of the attacks. The condition of the gums in teething, gastric, or intestinal disorder; matters retained in the lower part of the alimentary canal; the atmosphere itself, especially when north, east, or north-east winds prevailed; perhaps certain vapours;—these were all insisted on as being intimately connected with the production of convulsion, or that form of it called laryngismus. Strabismus, or the spasmodic condition of the hand or foot, might arise from teething, &c.; but the larynx was very apt to be affected by the north or east winds, or other conditions of the atmosphere. He also associated laryngismus stridulus with undue excitability of the spinal centre: when it seemed got rid of, it was very apt to recur. Hence the precaution of per-

vering with remedies longer than would otherwise be necessary.

4. *The influence of sleep.*—He alluded to the frequent occurrence of convulsions at this period, chiefly epilepsy. There was congestion of the nervous centres then; probably unusual excitability of them. Altogether, it produced a state favourable to convulsive seizures.

5. *Cerebral diseases.*—On this the author forcibly insisted. He referred to the consequences of inflammation, tubercular granulation or tumor, and effusion at the base of the brain; and also to the congestion of pertussis.

6. *Excited reflex actions.*—By far the greater number of convulsions were of a reflex nature. Laryngismus was most effectually avoided by removing every exciting cause of reflex action. He would chiefly guard against four causes of such action: first, irritation of the trifacial nerve, which took place in teething; second, that of the pneumogastric nerve; third, irritation of the spinal nerves; and fourth, the effects of the atmosphere upon the larynx, under certain circumstances. The organs affected in a convulsive seizure were precisely those which its pathology would lead us to expect—the larynx, the sphincters, &c. The author then called the attention of the Society to certain bronchitic, hepatic, and renal symptoms, and to the condition of the urine,—points which needed further investigation. He then dwelt on the effect of—

7. *Emotion, passion,* and showed how great and important was the part which they played in the affections he was treating of. He enforced the necessity of bearing them in mind fully in certain cases; he showed that they often constituted the real and only objection to the use of the gum-lancet, which consequently should always be cautiously employed.

8. The effects of augmented excitability were insisted on. States of the nervous system, induced by mild electricity, were compared with those occasioned by disease. The results of increase of excitability were entered into—irritants then acted, which at other times would be inert. A change in the direction of the wind, even, was not without bad consequences. Strychnia induced a species of laryngismus. Emotion, hysteria, epilepsy, tetanus, hydrophobia, all affected the larynx in a special manner.

The author next described those affections of the cerebrum which were consequent on convulsions,—the congestion, the effusion, the occasional paralysis, the risk of idiocy, &c. He then passed on to the question of sudden dissolution, demonstrating how difficult it was to foresee it often, and stating how frequently it happened when the patient appeared in progress to recovery. It

was the result of common asphyxia, but not rarely of what he had called secondary asphyxia, which he believed was closely dependent on the blood of the coronary arteries being unduly arterIALIZED. The remedies of asphyxia should be enforced promptly in such cases of sudden death.

Some observations were then made on the diagnosis of convulsions, in which the transient, or permanent, or complicated character of symptoms, as the case might be, were all pointed out as modes of assistance in conducting the inquiry. The author drew attention to the post-mortem appearances, which varied as the disease was centric or eccentric, or according to the mode of death. There might be the results of inflammation within the cranium, or nothing found whatever but the appearances proper to asphyxia. Lastly, he made some practical observations upon prevention and treatment; as to the latter, insisting on an accurate diagnosis as an indispensable preliminary, on a due attention to the complications of the affection, on the necessity of bearing in mind all the varied forms of irritation, and applying the appropriate remedies without delay, on having regard to the state of the patient during the time of sleep, on protecting it from cold air, &c. And if he had shown the application of the physiology of the nervous system to its pathology, he had gained the object which he had in view in bringing the subject before the Society.

Mr. HIRD considered that the profession were much indebted to Dr. Hall for his researches on the subject of infantile convulsions, and for his explanation in respect to those cases in which the brain was involved in the cause, and where it was not. He agreed generally in the views of the author, but should be afraid to lance the gums so freely and so often as Dr. Hall had recommended in some of his published papers. In the other plans of treatment recommended he fully concurred.

Mr. BARLOW agreed fully with Dr. Marshall Hall as to the ill consequences of cold in laryngismus stridulus. In some cases, a keen wind was certain to bring on the paroxysm. In a case related by Dr. Hugh Ley, the first attack was produced by the application of cold to the head. He thought no one could contradict the correctness of the view which had been taken of the causes of the disease. He believed by far the larger number of cases were eccentric in their origin, and that depleting measures should never be used without much caution. Irritation of the trunk of the *nervus vagus* produced reflex actions, contrarily to what happened in the nerves proceeding to the limbs; and he thought that in disease, spasm of the glottis, either with or without crowing, might occasionally be brought on

by affections of the trunk of this nerve, giving rise either to direct or reflux closure of the glottis. In a case where Sir Astley Cooper tied the carotid artery, inflammation and suppuration extended upwards in the course of the nervus vagus, and there was a cough, like that of whooping-cough. Sir Henry Marsh, in his instructive paper on spasm of the glottis, had suggested irritation of the origin of the pneumogastric as a cause of the affection; but the state of parts far remote from the nervous centres was mostly at fault. He had never been able to associate enlargement of the bronchial or cervical glands with the disease by way of cause and effect, as Dr. Hugh Ley had done in a work which would ever be consulted for its abundant information in regard to the malady. In two cases he (Mr. Barlow) had found it connected with hydrocephalus; in another, which he had examined after death, with bronchitis; in a fourth, which was fatal, he thought that the last paroxysm had depended on over-feeding. In the country—he meant the country properly speaking—the disease was acknowledged to be rare; and even in the crowded districts of towns he thought it rarer than was supposed. Out of 6879 patients who had been admitted at the Children's Infirmary since Jan. 1st., 1846, there were only seven cases reported of this disease. In three cases he had observed the paroxysm produced by the act of drinking—a fact of interest, viewed as an addition to those phenomena which connected laryngismus with the convulsive actions, of which it was certainly one. He would ask Dr. Hall if he had observed this fact.

Dr. THEOPHILUS THOMPSON remarked, that in the majority of obstinate cases of laryngismus stridulus, hydrocephalus was either present, or threatened to develop itself. Sometimes convulsions were the result of simple irritation; in other instances they originated in inflammation.

Dr. CLUTTERBUCK thought that the brain was always involved in cases of convulsions, and that it suffered at these times from inflammation. The brain was a complicated organ, and various parts of it performed various functions. He agreed in the treatment recommended by the author.

Dr. REID did not find that dampness of the atmosphere was a cause of laryngismus; on the contrary, the affection was rare in damp localities. He had some doubts respecting the prejudicial influence of a north-east wind in these cases, and mentioned two instances in which it had no such bad effects. He had never seen a case during the time the infant was suckling.

Hospital and Infirmary Reports.

GENERAL HOSPITAL, NEAR NOTTINGHAM.

Reduction of Dislocation of the Hip under the influence of Ether.

VINCENT BENTON, an active muscular man, æt. 29, plumber, admitted into the General Hospital, near Nottingham, under the care of Mr. White, Saturday, April 7th, 1847. Between 1 and 2 P.M. fell from a ladder about twelve yards high, severely injuring both ankles, and dislocating the femur into the ischiatic notch. The accident occurred at Mansfield, and two respectable and experienced surgeons of that town were sent for: they bled him freely, and got him thoroughly under the influence of tartar emetic. The pulleys were then applied, and extension kept up for forty minutes, when the straps attached to the pulleys broke. He was then put into a chaise, and brought by one of the surgeons to the hospital, a distance of fourteen miles. A consultation of the medical staff of the hospital was held at 9 P.M. The appearances of dislocation of the head of the femur into the ischiatic notch were so pronounced, that no doubt could be entertained of the nature of the injury, the only unusual circumstance being the great mobility of the limb, which could be flexed and extended with much ease: this was probably owing to the powerful extension previously employed. In this case the use of the ether was judged inexpedient, on account of an apoplectic attack with which the man had been seized two years before, and which had left him in a paralytic state for some months afterwards. The pulleys having been adjusted, gradually increasing extension was continued for some time, while attempts were made to raise the head of the bone from its situation, but without the least effect, and at length the straps of the pulleys gave way. The pulleys were then readjusted, and powerful extension again made for about ten minutes, when it was thought expedient to employ the ether. In a very short time (a minute or two) he was completely under its influence. Extension was then recommenced, and continued for a few minutes, when the head of the bone slipped into the acetabulum with a slight jerk, the force used in making the extension not being nearly so great as that previously employed. The effects of the inhalation passed off in about ten minutes, without leaving headache or any other disagreeable result.

Two Cases of Reduction of Strangulated Crural Hernia by Taxis, under the influence of Ether.

CASE I.—Mrs. Shelburn, æt. 52, admitted March 22nd, 1847, under Mr. White, with strangulated femoral hernia of the right side. Is a delicate and somewhat feeble woman. Has had a lump for some years past in the situation of the present hernial tumor, and of about half its size: this has been regarded as an irreducible hernia. The increase in the size of the tumor occurred suddenly between two and three days ago, since which time the bowels have not acted, and there has been frequent but not constant vomiting. Before coming to the hospital, the taxis had been tried three times. The symptoms not being very urgent, she was put to bed, and a bladder half filled with refrigerant mixture applied for a few hours. The taxis was then perseveringly used, but without effect. She was now placed and secured upon Heurteloup's rectangular bed, with the head and shoulders well elevated, and the ether exhibited. As soon as unconsciousness was produced, the head of the bed was let down, so that the pelvis was very much elevated. Whilst in this position, the taxis was again tried, and in a short time the recently protruded portion of the hernia was easily returned. Her recovery was progressive.

We have been informed that within the last few weeks this woman has been again the subject of strangulated hernia, and has been operated upon by a surgeon in the country.

[Communicated by M. H. HIGGINBOTTOM, Esq. Surgeon, Nottingham.]

CASE II.—Mrs. T., a decrepit female, aged 68, much deformed by contraction of the chest and spinal curvature, having also chronic bronchial affection, has for many years been subject to reducible femoral hernia on the right side: occasionally she has had to call in the assistance of a surgeon to reduce the hernia.

May 18th.—This morning she was unable to reduce it: I was therefore called to her assistance; and having twice, after some hours' interval, tried the taxis in vain, I requested Mr. Booth Eddison to see the case. At this time there was a firm hard tumor, about the size of a hen's egg, evidently femoral hernia, which, from its irregular form, appeared to be principally omental. The swelling and the abdomen were painful on pressure. She complained of great pain about the epigastric region, cramps, principally of the abdominal muscles, sickness, vomiting, and occasional hiccough; the bowels had been slightly moved twice since morning; skin clammy; pulse very compressible; tongue white; general prop-

tration. The taxis was again tried for a short time, without the least benefit.

Under these circumstances it was, in consultation, decided to submit her system to the moderate influence of ether by inhalation, and Mr. Sibson, of the General Hospital, kindly assisted in the administration, by means of the efficient instrument he has had made for the purpose. The ether speedily took effect, and, the taxis being again used and continued, diminution of the hernia was soon felt, and shortly the whole was reduced; and the patient remarked that the pain was far less than she often produced by her own efforts to return the rupture when down. She recovered without any drawback.

At the beginning of the inhalation, taxis excited violent contraction of the abdominal muscles; but, under the influence of the ether, they became perfectly relaxed, although the ether was withdrawn before complete unconsciousness was produced.

Mr. Sibson's inhaling mask* adapted itself perfectly to the form of the face, although the patient was toothless, and the jaws and cheeks shrunken.

Reduction of Dislocation of the Hip on the Dorsum of the Ilium, under the influence of Ether. [By JOHN CAUNT, Esq., Surgeon, Nottingham.]

The following case still further illustrates the astonishing effects of ether in the reduction of dislocations:—

May 31st.—I was sent for late last night to Mr. D., a muscular man, 44 years of age, who, in returning from the country, was thrown from his gig, his horse stumbling, when going at rather a rapid pace, and pitched upon the right shoulder, the coat being very much torn at that part. I immediately undressed him, and, on examination, found the shoulder on which he had fallen slightly hurt—merely bruised; but, strange to say, there was dislocation of the thigh bone of the opposite side upon the dorsum of the ilium. All his pain was referred to that hip, and he was constantly crying out about it, and could scarcely bear it to be touched. There were also the symptoms of the above dislocation, such as shortening of the limb, inability to abduct it, and inversion of knee and foot turned inwards, and the head of the thigh-bone could be distinctly felt and slightly rotated upon the dorsum ilii. My friend Mr. Sibson kindly sent his ether apparatus, and undertook the control of it during the reduction. My

* "It is made of metal, and covered with silk, in the form of a partial mask, and admits of respiration both by the mouth and nostrils; the border of it contains pliable sheet-lead, which can be moulded to the peculiarities of the features, and retains the form given to it."—*Lancet*, 546, May 23.

friends Dr. Hutchinson and Mr. Taylor were also present, and kindly assisted.

The patient having been fixed in the usual position, the inhalation was commenced, and the action of the apparatus—the power it possesses of giving or modifying the vapour at will—was well illustrated. He soon exhibited symptoms of its effects, which at first were strong spasmodic action of the muscles of the extremities, particularly the upper. This condition soon subsided, and was immediately followed by complete relaxation and insensibility to pain, the pulse being soft and feeble. The extension by pulleys had only been used a very short time, when the head of the bone disappeared from the position it had assumed, and the reduction of the dislocation was found to have been effected, almost to the surprise of every one present, and particularly the patient, who is a sensible man, and afterwards expressed his extreme delight at the means used.

6 P.M.—I have just seen Mr. D. He has had no headache or other unpleasant symptom. Has slept for a few minutes at intervals, and, as he says, feels very comfortable. He felt no pain during the reduction, and was perfectly unconscious of what was going on, and thinks it would have been the same if we had taken the limb off.

Medical Intelligence.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN IN LONDON AND ITS VICINITY.

At the 59th anniversary of this Society, which was celebrated on Saturday, the 22d May, Sir C. M. Clarke, Bart., the President, in the chair, after the usual public toasts, the chairman gave "Prosperity to the Institution." He refrained from dwelling long on its value and advantages at a meeting of persons who were nearly all members, and therefore well informed of its merits. The good which it had done, and was still doing, required no other proof than the printed statement of affairs. He could not, however, help expressing his very great astonishment that this Society, the only one of its kind in the metropolis, doing so much good, and requiring an annual subscription of two guineas, should contain less than 350 members. It was really difficult to find a reason for any qualified practitioner neglecting to join it. Its object was, avoiding all party questions and medical politics, to maintain a fund for the relief of the widows and orphans who might require assistance. The medical profession did much for the public, both rich and poor, but mankind cared very

little for medical men after the immediate relief of their own ailments. It behoved us, therefore, to help ourselves and each other, and the Court of Directors spared no pains to administer the funds properly, according to the very simple intentions and laws of the Society.

Mr. WARE, V.P., in returning thanks for the vice-presidents, lamented that though within the last twenty years, there was a small actual increase in the number of members, yet in proportion to the increase of medical men practising within its limits, it had actually retrograded. It once included about one-third of those so practising; it now contains but 350 members.

Mr. JOHN HUNTER, the acting Treasurer, returned thanks for the trustees and treasurers, and called attention to the very large sum annually granted for relief compared with the very small amount of annual subscriptions. This was due partly, of course, to the judicious addition of all life subscriptions and compositions to the capital stock, thus increasing the permanent income of the Society; but mainly it was due to the benefactions of the more opulent and liberal members, who, together with a few friends to the Society, who were not members, brought or sent donations to these annual festivals. It was from these sources that the means of large bounty annually swelled to their height, like the waters of the Nile, and then poured a flood of benevolence around.

Donations to the amount of £150 were announced, a good list of stewards was made up for the next year, and a letter was read announcing the intention of H. R. H. the Duke of Cambridge to take the chair.

FEVER IN IRELAND.

Owing to the alarming progress of fever, as impressed upon the authorities by memorials from Cork and other quarters where the disease is raging, it has been considered advisable to postpone the circuits for the present,—a course that was adopted in the year 1832 during the prevalence of the cholera.

APOTHECARIES' HALL.

NAMES of Gentlemen who passed their Examination in the Science and Practice of Medicine, and received Certificates to Practise, Thursday, 27th ult.—Charles Sproull, Deasyhill—Edward Dawson Allinson—William Henry Paine, Stroud, Gloucestershire—Henry Hides, Wisbeach, Cambridgeshire—Alexander Mundell Champnes, Slough—Edwin Younge, Walesby, Lincolnshire—Francis Henry Blaxhall, Claydon, Ipswich—Henry Heath Corbould, London—Henry Stevens—Thomas Hobson, Kinkella.

MEDICAL REGISTRATION BILL.

On Wednesday last, Mr. Wakley postponed the second reading of the Medical Registration Bill until Monday week, June 14th, in order that the committee may take further evidence on the subject and make their report. He moved that all petitions for and against the measure be referred to the committee.

OBITUARY.

On the 15th of April last, at Kandy, Ceylon, of dysentery, deeply and deservedly lamented by his family and numerous friends, Mr. Henry Sample Howlet, surgeon, aged 36, eldest son of Mr. Howlet, of Bartlett's Buildings, solicitor.

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, May 22.

BIRTHS.	DEATHS.	Av. of 5 Yrs.
Males.... 659	Males.... 487	Males.... 468
Females.. 614	Females.. 424	Females.. 446
1267	911	914

CAUSES OF DEATH.

ALL CAUSES	911	914
SPECIFIED CAUSES	911	909
1. Zymotic (or Epidemic, Endemic, Contagious) Diseases ..	199	186
<i>Sporadic Diseases, viz.—</i>		
2. Dropsy, Cancer, &c. of uncertain seat ..	90	90
3. Brain, Spinal Marrow, Nerves, and Senses ..	148	158
4. Lungs and other Organs of Respiration ..	237	275
5. Heart and Bloodvessels ..	36	29
6. Stomach, Liver, and other Organs of Digestion ..	87	70
7. Diseases of the Kidneys, &c. ..	12	8
8. Childbirth, Diseases of the Uterus, &c. ..	9	10
9. Rheumatism, Diseases of the Bones, Joints, &c. ..	9	8
10. Skin, Cellular Tissue, &c. ..	1	2
11. Old Age ..	51	57
12. Violence, Privation, Cold, and Intemperance ..	23	28

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	11	Convulsion	43
Measles	33	Bronchitis	38
Scarlatina	26	Pneumonia	46
Whooping-cough ..	35	Phthisis	116
Typhus	54	Dis. of Lungs, &c. ..	8
Dropsy	12	Teething	10
Sudden deaths ..	9	Dis. Stomach, &c. ..	9
		Dis. of Liver, &c. ..	13
Hydrocephalus ..	26	Childbirth	5
Apoplexy	27	Dis. of Uterus, &c. ..	2
Paralysis	12		

REMARKS.—The total number of deaths was 3 below the weekly Spring average. The mortality from diseases of the lungs has fallen below the average. The deaths from typhus are on the increase.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer	29.83
“ “ Thermometer	58.4
Self-registering do. max. 30° min. 35.7	
“ in the Thames water — 62° — 57°	
* From 12 observations daily. † Sun.	

RAIN, in inches, †14: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 4.4° above the mean of the month.

BOOKS RECEIVED FOR REVIEW.

Continued from MARCH 5, p. 440.

Henfroy's Structural and Physiological Botany. —Dr. G. Robinson on the Sanitary Condition of Newcastle upon Tyne. —Heller's Archiv für Mikroskopie, 1846, H. 6. —Dr. W. H. Robertson's Treatise on Diet and Regimen. —Hassall's Microscopical Anatomy, Part VIII. —Prevention and Treatment of Diseases in the Potato and other Crops, by J. Parkin, M.D. —On Wounds and Injuries of the Abdomen and Pelvis, by G. J. Guthrie. —Report on the Progress of Ophthalmic Surgery, by W. R. Welde, M.R.I.A. —Practical Remarks on the Inhalation of the Vapour of Sulphuric Ether, by J. P. Brookes, M.D. —Experiments on the Identity of Cow-pox and Small-pox, by J. Badcock, M.D. —On Severe Diseases of the Human Body, by Dr. Seymour. —Graham's Remarks on the Diet of Children. —Tracy's Description of Apparatus for inhaling Ether Vapour. —Todd's Cyclopaedia of Anatomy and Physiology, Part 28. —Transactions of Provincial Medical and Surgical Association, Vol. 3, N. S. —Boston Medical and Surgical Journal, No. VII. —Dr. R. Hamilton's Address on Homoeopathy to the Medico-Chirurgical Society of Edinburgh. —British American Journal of Medical and Physical Science, Jan. March, and April, 1847. —Dr. Smith on Fractures and Dislocations. —Druitt's Surgeon's Vade-Mecum, 4th edition. —Dr. Conolly on the Construction and Government of Lunatic Asylums. —Dr. J. M. Warren on the Inhalation of Ether. —The Nature and Treatment of Pulmonary Consumption, by Dr. T. Woods. —Dr. R. King on the Preservation of Infants in Delivery. —Wells on the Application of Nitrous Oxide in Surgical Operations. —Annales de la Société Médicale de la Flandre Occidentale. —Gray's Supplement to the Pharmacopoeia, by Redwood. —Dublin Quarterly Journal of Medical Science. —Lee on Hydropathy and Homoeopathy, 3d edition. —Retrospective Address on Medicine, by W. H. Ranking. —Medical Reform Questions, by Edwin Lee. —Norfolk Miscellany of Literature, Science, and Agriculture. —Chelius' System of Surgery, Part XVI. —Table of Urinary Deposits, by Dr. Ray C. Golding. —On the Connection between Famine and Fever in Ireland, by H. Kennedy, M.B. —Lecture on Physical and Intellectual Life, by Samuel Wright, M.D. —The English Poor Law and Poor-Law Commission in 1847. —Observations on the Treatment of Lateral Curvature of the Spine, by E. F. Lonedale. —Practical Observations on certain Diseases of the Skin, by Thomas Hunt, M.R.C.S. —Hassall's Microscopical Anatomy, Part IX. May. —Der Speichel in Physiologischer und therapeutischer Beziehung nach Samuel Wright, Wien, 1844. —Het Speekel uit een Physiologisch en Therapeutisch oogpunt Beschouwd door S. Wright, Amsterfoot, 1846. —Treatise on the Structure, Diseases, and Injuries of the Bloodvessels, by Mr. E. E. Crisp. —Report of Cumberland Lunatic Asylum, Jan.

NOTICES TO CORRESPONDENTS.

We are obliged to Captain Griffiths for the extracts, which will be inserted.

We are again compelled to postpone several communications which are in type.

Received.—Dr. Todd.—Dr. G. E. Day.—Dr. J. H. Pickford.—Dr. McWilliam.—Dr. Coley.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 and 1847,

By BRANSBY B. COOPER, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

LECTURE III.

Signs of inflammation separately considered. —Pain, its importance and action during surgical operations—circumstances modifying its character and degree.—Heat, real—imaginary.—Treatment.—Redness, theories of its cause—differences of: important in treatment.—Swelling—different kind of effusions.—Various terminations to inflammation.

IN my last lecture, gentlemen, I mentioned to you the phenomena of inflammation, and told you that Pain, Heat, Redness, and Swelling, are the principal symptoms by which surgeons recognise the presence of local inflammation. Each of these symptoms is of sufficient importance to render its separate consideration necessary, especially as the treatment of inflammation is greatly regulated by the preponderance, or peculiarity, of some of these signs.

Pain is very frequently the earliest symptom which ushers in inflammation, and even first directs the patient's attention to the seat of disease. I was, some years ago, sent for to a lady about 56 years of age, who awoke in the middle of the night with a severe pain in the left foot, attended with some slight degree of constitutional irritation; I was surprised to find, upon examination, the absence of redness, swelling, or heat, although there was complaint of a general diffused character of pain over the whole foot; I felt convinced it was not gout, although to that disease the patient attributed her sufferings. In a few hours absorbent inflammation became apparent by red lines running up to the groin: the foot became suffused and red, the posterior and anterior tibial arteries beat with unusual force, vesicles arose, in a few hours the whole foot was in a state of sphacelus, and in three days the lady died.

I mention this case merely to illustrate the fact, that pain is sometimes the first symptom of inflammation, even of acute gangrene. I formed a correct diagnosis from the character of the pain, it being dull, throbbing, continued, and diffused, and not a tearing pain at one circumscribed spot, as in gout. Thus you observe, gentlemen, that pain may assist in forming a diagnosis, for

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it is very various, not only in intensity but in character; it may be acute or obtuse, constant or intermittent. These varieties, however, are only to be appreciated by the surgeon, from the description given by the patient, but which, in fact, it is difficult to rely on, from the extravagant style of expression of some persons, who describe as insufferable agony what others, under similar circumstances, would only speak of as a sensation of uneasiness. But it is also to be borne in mind, that persons of a sanguineous temperament are doubtless much more sensitive than those of a phlegmatic constitution. I should think, gentlemen, you must already, at this early period of your studies, have been struck with the difference of the intensity of suffering complained of by patients submitting to similar surgical operations in this hospital. Still, I do not believe that those who suffer the least pass through the restorative process the best, or recover the soonest. I am not one of those who believe that means should be employed for the purpose of destroying the sensibility of the patient, not even by the inhalation of ether, previous to his being submitted to surgical operation; not that I doubt the power of ether to destroy sensibility, but I do much doubt the fitness of the patient to undergo the shock of operation while under its influence. I have yet to learn, that the pain inseparable from lesion is wholly to be looked upon as an evil, and without any compensating effects; for I believe the irritation inflicted on the sentient extremities of the nerves produces a reflex action on the motor filaments, inducing contractions of muscles, receding of divided blood-vessels, and a condition essential to future reparation. Do we think of performing operations on patients in a state of insensibility, or collapse, after severe injury? Certainly not, but wait until reaction comes on; and although the two conditions are not precisely the same, they are sufficiently similar to allow of an analogy being drawn. I have seen persons undergo formidable operations not only without expressing the usual suffering, but also declaring they felt but little pain during its performance; and I have usually found that such constitutions were slow in their recovery. I remember being present with the late Sir Astley Cooper, upon the occasion of his removing a large scirrhous breast from a lady, who, during the operation, evinced the most perfect indifference to the procedure, and upon Sir Astley's extolling her for her magnanimity, she replied, "you are giving me praise where none is due; for I assure you, Sir Astley, the operation gave me no pain whatever, not even amounting to a disagreeable sensation;" but nevertheless in a week she was

dead. Pain is as essential, depend on it, to certain conditions of the human frame, as its absence is to health. Still, however, when pain is an urgent symptom of inflammation, and inordinate in degree, a surgeon defers operating under such circumstances, as he would under aggravation of the other signs of intense inflammatory action, and first subdues its severity by leeching, fomentations, opiates, and other antiphlogistic means. No one, for instance, would think of injecting a hydrocele while the tunica vaginalis was excessively tender, or of passing a seton through, or blistering, a highly inflamed bursa, until the pain and other signs of inflammation were subdued. There may, however, be exceptions to this rule of delaying operations in consequence of the severity of pain; as, for instance, in case of a tumor, or some extraneous body, pressing on a nerve; under such circumstances, the cause must be removed, or the symptom will continue. The difference here is, that the pain is not depending on inflammation, but mere local irritation,—a distinction most important to appreciate.

It has been a matter of discussion amongst physiologists, whether pain be the cause or the effect of inflammation, or, in other words, whether nerves are primarily or secondarily affected. There are arguments in favour of, as well as against, both of these positions: those adduced in support of the former are, the early presence of pain on the infliction of an injury; but, as inflammation does not always follow pain from this cause, nor, when resulting, seems to be severe in proportion to the degree of suffering, this opinion can hardly be tenable. Direct injury to a nerve being sometimes followed by inflammation, it is brought forward as another instance of the nerve being primarily affected. A case is on record of one of the axillary nerves being tied instead of the subclavian artery in an operation for aneurism, and the patient died from abscess in the brain. This case only proves that the nervous system may be first affected, but not that it invariably is a precursor of inflammation.

On the other hand, the facts advanced to prove that the nerves are not primarily or essentially implicated are, that cold often induces inflammation without pain, and, the strongest fact of all, that paralysed limbs inflame, and even with greater facility than sound limbs. I think, however, there may be some fallacy in both these adduced instances: first, that cold may, acting as a sedative, destroy the sensation of pain; and, secondly, that in paraplegia, although the patient may have lost the power of the nerves of motion and sensation, he is still subjected to the vital influence of the sympathetic system. I think there can be no doubt, that, as pain

is a necessary effect of lesion, when inflammation follows injury, pain may be said to be the first symptom; but, at the same time, it is very different from that pain which arises from the effusions and swelling when inflammation is established: the former may be very properly relieved by opiates; but in the latter case narcotics are to be avoided, as they have a tendency to check secretion and increase inflammatory action.

The kind of tissue inflamed modifies the character and degree of pain to such an extent as to form a very important aid in the diagnosis as to the particular parts inflamed. The severity of the pain seems to depend much upon the inextensibility of the structure attacked; for, as the pain of inflammation is caused by the swelling of the part from effusion, pressure on nerves, and distension of blood-vessels, it must necessarily be severe in proportion to the difficulty with which the structures yield to the effusions. For this reason, the pain of swelled testicles and of inflammation of the eye-ball is so intolerable, while fungoid tumors superficially seated increase rapidly to great size with little or no pain: indeed, its absence proves one of the principal diagnostic marks of this disease.

The character of the pain, I have already told you, gentlemen, differs in various diseases: for instance, it is acute and darting in cancerous diseases of the breast, obtuse and throbbing in abscesses, and scarcely experienced in fungoid, hydatid, and chronic enlargements of the same organ.

Pain in diseases of the bones is peculiar, not only from its obtuse aching character, but also from its period of aggravation, at night, which is attributed to the heat of the bed; but that does not explain how it happens, that at daylight a mitigation of pain succeeds, as if putting on a kind of intermittent character. In diseases of articular cartilages, particularly of the knee, there is a peculiarity as to the period of accession of pain always complained of by those suffering from diseases of this joint, namely, a starting agonising pain directly they fall asleep. This I believe wholly referable to the voluntary power of the muscles being excited in keeping the joint in its easiest position while awake; and that, immediately this volition ceases, by the patient falling asleep, the inflamed surfaces, being no longer supported, are pressed against each other by some alteration of position, and the starting pain is produced.

There are many structures in the body which are said not to be susceptible of pain, and are thought, therefore, not to be supplied with nerves: thus, for instance, healthy bones, cartilages, tendons, &c., when exposed, may be cut and torn without any sensation of pain; but, when inflamed,

they become extremely sensitive, sufficiently proving the presence of nervous filaments, which, although not like the sentient nerves of the skin, capable of appreciating all external physical agents, are yet perfectly competent to warn each structure against any inordinate exercise of its natural function beyond what it is capable of sustaining.

Generally speaking, pressure increases the sensation of pain; but this is not invariably the case; for in some instances it diminishes it; and this fact forms an excellent diagnostic mark between peritonitis and colica: in the former, the slightest pressure, even the weight of the bed-clothes, is intolerable; while in the latter case you will often see a patient leaning over the back of a chair, in order to obtain a mitigation of suffering.

Heat.—Under inflammation, the heat of a part is increased beyond the natural standard, but not above the normal degree of temperature of the blood. It sometimes happens in local inflammation that the patient expresses a sensation of heat in the part affected, but without any thermometrical indication of a rise in temperature, probably resulting from a morbid sensitiveness of the nerves implicated in the diseased action. But generally there is a rise in the temperature of an inflamed part, referable to the influx of blood, and, according to Liebig, the consequent rapid combustion of their tissues. The heat of the interior of the body is greater than that of the surface, the one being within a degree of the heat of the blood, while the surface is several degrees cooler, the temperature decreasing in proportion to the distance from the heart. The extremities are invariably, in a healthy condition, found cooler than the trunk. John Hunter found that although the temperature of an inflamed part is raised beyond its natural standard, that still it never rises beyond the normal heat of the blood; and therefore he found that the heat of a part, which from its proximity to the heart or interior of the body is naturally but a degree or two below that standard, is, under inflammation, never thermometrically increased in heat to the same extent as in parts which are most distant from the heart's action. To illustrate this, he examined the rise of temperature resulting from the application of a blister on the chest, and found the thermometer indicated only a rise of about two degrees, while a blister on the extremities, which are naturally so much cooler, produced a rise of temperature of between five and six degrees. John Hunter also found the temperature of an inflamed pleura vagina and rectum of a dog to be but little raised; whereas, the tunica vaginalis, after being injected, had its temperature elevated from 92° , its natural standard, to $98\frac{1}{2}^{\circ}$; a rise of $6\frac{1}{2}^{\circ}$, but still not above the normal heat of the blood.

I have mentioned that patients sometimes complain of the sensation of heat in a part of the body, without any thermometrical proof of its existence. At first thought, this seems a singular phenomenon, but is perhaps attributable to the heat evolved by the changes taking place in the tissues from an increased flow of blood to the parts which the nerves appreciate, although the rapid evaporation from the surface prevents the thermometrical indication. Again, sometimes patients will describe a sensation of cold, and this may be real or imaginary;—real, under circumstances when there is a diminution in the nutrition of the part, indicating the necessity of means to be employed to restore the circulation, and by the application of soothing fomentations, and the administration of gentle stimulants with nutritious food. But the sensation of cold may also indicate a tendency to rigor, as is so frequently a precursor of the effusion of pus globules. When, from local inflammation, there is a great elevation of temperature in the part affected, cold, produced by evaporating lotions, is usually recommended, and frequently its application is most grateful to the patient; but sometimes, and without any apparent cause, it will be found that cold, instead of alleviating, increases the inflammatory action, or induces a tendency to rigor: under these circumstances fomentations should be recommended. I usually, therefore, apply tepid lotions to inflamed surfaces at a temperature of about 96° , so that there is no reaction necessary to restore the equilibrium, as must be the case when the application is either below or above the standard heat of the surface affected.

Redness.—An intensity of colour beyond what is natural to the inflamed part constitutes another symptom of inflammation, and obviously depends upon an unusual influx of blood. Not that it is to be understood that a part must be necessarily inflamed because it is preternaturally red; it may be merely active congestion, a restorative action corresponding to the increased necessity for nutrition of the tissues, and not amounting to an arrest of the circulation of the blood through the capillaries, which constitutes inflammation. Examples of this state of active congestion, without actual inflammation, may be seen well illustrated in the flushed cheek of infantile remitting fever, complicated with inflammation of the ileum, and also in that wonderful phenomenon of blushing, where the redness is accompanied by a sensation of warmth, sometimes amounting to great heat, or even tingling. It has been considered that the increase of colour sometimes depends upon the admission of the red particles of the blood into vessels which, under usual circumstances, are only intended to circulate the colourless ser-

puscles; but this hypothesis is not considered valid, for as the red corpuscles are smaller than the colourless ones, it is doubtful if there be such vessels in any structure of the body; and the increase of colour is attributable only to the enlargement of the smaller vessels, and the admission, therefore, of a sufficient quantity of blood to reflect the red colour of the corpuscles, which before were so few that their colour was not appreciable to the eye.

There is much variety in the colour of the redness under inflammation, and both the diagnosis as well as the prognosis may be partly formed from the tint exhibited; this is well exemplified in erysipelas. Thus a florid red colour shows high vascular action, and unless there be some counter-influencing cause, antiphlogistic remedies are indicated, but which I may tell you, gentlemen, in London, and perhaps even in large provincial towns, must be employed with very great precaution; for I have rarely seen blood withdrawn, in cases of erysipelas, in this hospital, that there has not arisen cause to regret it: purging is a better remedy; and when the bowels have been well opened, the exhibition of Dover's powder, followed up with Ammonia and Bark, seems to be by far the safer practice in this metropolis.

A *purple tint* denotes venous congestion, and the inflammation having extended to the subcutaneous cellular tissue. It frequently precedes the formation of matter and diffused abscess, indicating the necessity of support, and even stimulus.

Carbuncle offers an excellent example of the purple tint of the inflamed part, as well as of the treatment required under its presence. The peculiar copper-coloured tint, or dirty red inflammation, also forms an almost invariable diagnostic mark of syphilitic poison. All instances, affording excellent illustration, of the importance of paying attention to the changes and variety of colour, concomitant with inflammation of the surface.

Swelling is perhaps to be considered one of the most important phenomena resulting from inflammation; as its degree and kind (as far as refers to its physical conditions as well as to the constitutional symptoms concomitant with it), point out the nature of the effusion causing the swelling, and what may be the probable nature of the disease. The first cause of swelling is the mere distension of the vessels from the increased influx of blood, which may be nothing more than the result of an increased action, often disposed to terminate, without even the aid of any medical interference, in what is termed Resolution.

By resolution is meant the spontaneous termination of inflammation, without dis-

organisation of the tissues affected, and this should scarcely be considered as beyond active congestion. The *swelling*, however, is much more frequently caused by effusion into the surrounding tissues either of serum or liquor sanguinis, with or without red particles, constituting a true sign of inflammation. When serum is thrown out, the swelling is what is usually called oedematous, as indicated by a degree of coldness and paleness of the part, with an entire loss of elasticity, so that upon the application of any force the impression remains, and forms what is technically called a pitting: there is also a tendency in the serum to gravitate towards the lowest points. This condition may depend either upon constitutional or local causes, the treatment being regulated solely by the discovery of the seat of the disease.

When the swelling is produced by the effusion of the liquor sanguinis, the centre of the inflamed part is rendered hard and resisting, in consequence of the coagulation of the fibrin, and the circumference is oedematous from the presence of serum; the hardness often remains, even after all the signs of inflammation have subsided, and sometimes permanently, either from the great difficulty of the absorption of fibrin, or from its becoming organised. When inflammation is intense, or under certain constitutional conditions, red corpuscles of the blood may be effused, forming an important feature in the case, as indicative of great want of power. The effused matter need not of necessity be composed of any of these natural constituents of the blood, but pus may be deposited, leading to the formation of an abscess, the constitutional and local signs of which will be dwelt on when speaking of suppuration.

If the structure inflamed is incapable of easy distension, and offering therefore much resistance, the effusions will be necessarily small, and the constitutional disturbance great. Under these circumstances early openings should be made, even without the evidence of the formation of pus; and you must many of you, gentlemen, have witnessed the relief which is afforded by this practice when even nothing but a little serum has been evacuated: in cases of inflammation of the thecæ this fact is forcibly demonstrated. When, on the other hand, the effusions take place into loose cellular tissues, it frequently affords a mitigation of all inflammatory symptoms, by relieving the distended blood-vessels.

If the effusions occur in the substance, or even in the surface of vital organs, or into the serous cavities covering them, they frequently so disturb the proper performance of their natural functions as to destroy life.

The nature of these effusions constitutes a

very important subject for the consideration of the surgeon, as from the constitutional symptoms they produce, they suggest to him the appropriate treatment for their relief.

These effusions vary according to the violence of the inflammation, the nature of the exciting cause, the kind of tissue inflamed, and perhaps more than all according to the peculiarity of the patient's constitution. We have instances of these varieties of effusions from constitutional causes constantly presented to us in the wards of this hospital. In persons the subjects of erysipelatous inflammation, we find the effusion instead of being of healthy coagulable lymph, of a thin sero-purulent exudation, and frequently passing into diffused abscess. In punctured and poisonous wounds a watery serous fluid is exuded. In the healing of wounds, whether produced by constitutional or local causes, a surgeon has no better means of judging of the state of his patient's health than by observing the nature of the effusions from their surface, which likewise afford him the very best means of judging both of the constitutional and local remedies to be employed. When a serous membrane is inflamed, there is a natural tendency to the effusion of serum from an increased action of the capillaries of this tissue, but if the inflammation be intense, fibrine becomes thrown out with the serum, and partial adhesions between the two surfaces of the serous sac are likely to occur. Such are the results of inflammation in a healthy person, but in cachectic constitutions non-organisable matter is effused, which floats as flakes in the serum, and is perfectly incapable of producing anything like adhesions. When inflammation of the serous membranes becomes very acute, it has been supposed, at least in cases of inflammation of the tunica vaginalis, that the serosity of the blood is effused, for it has been found that the fluid withdrawn from a hydrocele produced under active inflammation, did not coagulate by the application of either heat or acid. I have, however, never met with such a case, and suspect that some fallacy has arisen, from mistaking an encysted for a common hydrocele. This opinion requires, however, further investigation. A continuation of inflammation, and consequent exudation of liquor sanguinis, often leads to a softening down of the tissues, which become transformed into pus, or, according to the opinion now more generally received, the exudation cells are converted into pus-globules. Sometimes continued inflammation induces disintegration of the tissues affected, the absorbents removing the decomposed elements, constituting what is termed ulceration. Or, in other cases, obstruction of the blood-vessels may become so complete that the nutrition of a part is entirely stopped, and,

what is technically termed, passing into a state of mortification or gangrene, it at last dies.

LECTURES ON NUTRITION, HYPERTROPHY, AND ATROPHY,

Delivered in the Theatre of the Royal College of Surgeons, May 1847,

By JAMES PAGET, Esq.

Professor of Anatomy and Surgery to the College.

[Reported by WILLIAM S. KIRKES, M.D.]

LECTURE II.

Importance of the excretory office of each organ in the process of development—circumstances favouring the supposition that the existence of certain materials in the blood leads to the formation of corresponding tissues—conclusions which may be drawn from these two principles in relation to the successive development of parts.—Complemental relations in which certain organs stand, in their nutrition, to each other—evidence of such relation afforded by the changes in nutrition undergone simultaneously by two or more parts, and by the commensurate development of certain organs.

Second condition essential to healthy nutrition, namely, a due supply of appropriate blood—proofs of the necessity of this condition afforded by mortification when the supply is diminished or cut off—cases and preparations illustrating this.—Nutritive materials derived from the blood-vessels by imbibition—the vessels themselves take no active share in nutrition—the whole process extra-vascular.

Third condition essential to healthy nutrition, namely, the influence of the nervous system—arguments against, and those in favour of, the existence of such influence—evidence furnished by the effects of mental conditions on the formative process, and by the defective nutrition resulting from interruption of nervous supply to a part—class of nerves through which the formative process is influenced.

THE principle illustrated in the last lecture—that each organ, while it nourishes itself, serves the purpose of an excretion, in that it removes from the blood certain constituents, which leave that fluid in a state more fit for the nutrition of the other parts—this principle has an application of peculiar interest in the history of development. For if it be influential when all the organs are

already formed, and are only growing or maintaining themselves, much more will it be so when the several organs are successively forming. At this time, as each nascent organ takes from the nutritive material its appropriate constituents, so it will co-operate with the gradual self-development of the blood, to induce in it that condition which is essential, or most favourable, to the formation of the organs next in order to be developed.

The importance of this will the more appear, if we consider the probability that the consequence of the existence of certain materials in the blood is the formation of an organ, or structure, into the composition of which those materials may enter.

This is made certain, as a rule in pathology, by the cases in which diseased structures are formed, embodying materials which had their origin or previous existence in the blood; as in most of those inoculable and other blood-diseases in which morbid organisms are produced. It may be made very probable as a rule in physiology also. For example, when one kidney is destroyed, the other often becomes much larger—does double work, as it is said—and the patient does not suffer from the retention of urine in the blood: the full meaning of which (a well-known fact, and not without parallel) seems to be this:—The principal constituents of the urine are, we know, ready formed in the blood, and are separated through the kidneys by the agency—that is, by the development, growth, and discharge—of the renal cells; now, when one kidney is destroyed, there must for a time be an excess of the constituents of urine in the blood; for since the separation of urine is not mere filtration, the other kidney cannot at once, and without change of size, discharge a double quantity. What, then, happens? The kidney grows; more renal cells develop, and discharge, and renew themselves; in short, the existence of the constituents of the urine in the blood induces the formation of renal substance.

An analogous fact is furnished by the increased formation of adipose tissue in consequence of the existence of abundant hydrocarbon principles in the blood: a fact of daily observation, and not inapplicable, because fat is really a tissue, especially in its early development. And another, bearing on the same point, though not admitting of definite description, is the influence supposed, or perhaps proved, to be exercised by various diets in producing the especial growth of certain tissues—as the muscles, the bones, the hair, or the wool.

I add again, on this point, as on a former one, that the case as concerning nutrition is remarkably corroborated by the observation of similar facts in instances of secretions.

These facts seem enough to make highly probable the principle I mentioned—namely, that the consequence of the existence of certain materials in the blood is the formation of an organ, or structure, into the composition of which those materials may enter. At any rate, they make it nearly certain for the more lowly organised tissues, and for the products of disease; and hence, by analogy, we may assume it for the other tissues. Even for the very highest, we may safely hold that a necessary condition, if not a part of the cause, of their formation, is this previous existence of the appropriate materials in the blood.

Now, if we combine these two principles—firstly, that the blood is definitely altered by the abstraction of every material necessary for the nutrition of a part, and secondly, that the existence of certain materials in the blood induces, or, at the least, favours, the formation of corresponding tissues—it will follow, at any rate as a reasonable hypothesis, that the order in which the several organs of the body appear in the course of development, while it is conformable with the law of imitation of the parent, and with the law of progressive ascent towards the higher grade of being, is yet (at least in part, and in this part more directly,) the result of necessary and successive consequences: the formation of one organ, or series of organs, inducing, or supplying a necessary condition for, the formation of others, by the changes successively produced in the composition of the nutritive material from which they all take their nutriment. In other words, the development of each organ or system, co-operating with the self-development of the blood, prepares it for the formation of some other organ or system, till, by the successive changes thus produced, and by its own development and increase, the blood is fitted for the maintenance and nutrition of the completed organism.

Perhaps I may seem to have carried theory too far: I would apologise for doing so, and would carry it no further, if I did not feel that to such an audience as this, instructed in all the current facts of physiology, and, for the most part, engaged in acquiring knowledge by their own observation, rather than by the teaching of others, it becomes me to endeavour, not so much to instruct, as to suggest things which they may examine by their own knowledge.

I will, therefore, be bold to go on, and propose that this principle—that each organ, in its acts of self-nutrition, is as an excretory organ to all the rest—may be applied to individual instances; on the assumption that certain organs stand, in their nutrition, in a complementary relation to each other; so that neither of them can be duly formed, or maintained in healthy structure, unless the

right condition of the blood be induced and preserved by the formation of the other.

It is, of course, very difficult, or even impossible, to find instances by which this theory of complemental nutrition can be proved; while, really, we neither know exactly what materials are necessary for the formation of any organ, nor have the means of detecting the presence of more than a very few of them in the blood. For it is all very well for the discussion of certain parts of physiology to say, for instance, that a muscle mainly consists of fibrine; but when we are considering the physiology of the formation of organs, we must remember that in every muscular fibre there are at least three different compounds—those of the sarcolemma, of the nucleus, and of the fibril; that these are all equally essential to the formation of the fibre; and that we know not the composition of any one of them, nor could detect the absence of any one of them from the blood, though the result of that absence might be to render the formation of a muscular fibre impossible.

But, though it may lack direct evidence, the theory seems, in itself, probable; and there are many facts which we can explain by it so well, that they become evidence for it:—which facts, moreover, are very fair subjects for theoretical explanation, since, I believe, they are admitted to be as yet wholly unexplained.

Among these is the general fact that a great change in nutrition rarely takes place in one organ at a time, but usually affects simultaneously two or more parts, between whose nutrition there is a manifest and constant connection, although there is little or no relation between their external functions. Such, to take an instance from a large class, is the connection between the growth of various appendages of the integuments and the development or maintenance of the genital organs. This appears to be a general rule. The growth of the beard at the period of puberty in man, with which we are so familiar, is more instructively represented in many animals: especially in birds. In these, as you know, at the approach of every breeding time, the genital organs begin to develop themselves for the season, as in man they do for the whole time of vigorous life. And, commensurately with this development, the plumage (especially in the male bird), becomes brighter and more deeply coloured, both by the growth of new feathers, and by the addition of colour to the old ones. The height and perfection of the plumage are coincident with the full development and activity of the reproductive organs; but, as in man, when the development of the genital organs is prevented, the development of the beard, and all the other external sexual characters

is, as a consequence, hindered: so, in the birds, when the breeding season ends, and the sexual organs pass gradually into their periodic atrophy, at once the plumage begins to assume the paler and more sober colours which characterise the barrenness of winter.

So is it, also, at least in certain instances, in the mammalia, of which we have interesting evidence in the history of specimens presented to the museum by Sir Philip Egerton. These show that if a buck be castrated while his antlers are growing and still covered with the felt, their growth is checked, they remain as if truncated, and irregular nodules of bone project from their surfaces. Or, if the castration be performed when the antlers are full grown, these, contrary to what Redi said, are shed, nearly as usual, at the end of the season; but in the next season, only a kind of low conical stumps are formed in the place of antlers*.

It appears, then, as a general fact, that the development and activity of the reproductive organs have as a consequence, or as a necessary coincidence, a peculiar development and active growth or nutrition of certain other structures which, therefore, form the external sexual characters; but whose external functions stand in no apparent, often in no conceivable, connection with the generation of the species. The fact,—of the certainty and extent of which there can be no doubt,—is not hitherto explained; it is explicable on the theory of complemental nutrition,—by believing that the materials which in the formation of these organs of external sexual character are removed from the blood, leave and maintain the blood in the state necessary for the further development, growth, and active function of the proper sexual or reproductive organs. In other words, I would say, that where two or more organs are thus manifestly connected in nutrition, and not connected in the exercise of any external office, their connection is because one is partly formed of materials left in the blood by the formation of the other; so that each, at the same time that it discharges its own proper and external office, maintains the blood in the condition most favourable to the formation of the other.

Now, if the theory be admissible, we may find through it the meaning of the commensurate development and nutrition of many other organs, which in their external functions appear unconnected. Such are the concurrent development and activity of the thymus gland and the air-breathing

* That these should be produced may depend on the accessory organs of reproduction being developed; for these would not necessarily at once fail to be produced because the testicles were extirpated.

organs, during the body's growth,—of the thyroid gland and the brain, (instances of commensurate development cited by Mr. Simon)*,—of the spleen and pancreas, (as pointed out by Professor Owen),—and, I would add, of the embryo and the mammary gland; for the same theory may hold true concerning the formation of certain organs which are, finally, connected in their external functions.

In all these cases, I think it will be hereafter proved (what I can now only suggest as being probable), that these several organs are, in their nutrition, complementary; that the formation of the one is essential to the production of some material necessary for the construction of the other: and that, as we may be sure of Treviranus' law, in general,—that each organ of the body, while it nourishes itself, is in the character of an excretion towards all the rest,—so, we may believe, more particularly, that certain organs are, mutually, as excretions from each other.

Such, gentlemen, is the theory I venture to propose to you. But now, let me return, and remind you that this grew out of the consideration of the first condition necessary for healthy nutrition,—namely, the right state of the blood; a state not to be described merely as parity, but as one of exact adaptation to the temperament, or peculiar structure and composition, of the individual:—an adaptation so exact that it may be disturbed by the imperfect nutrition of a single organ, and for the maintenance of which against all the disturbing forces of the outer life of the body, nothing can suffice except continual readjustment by the assimilative power of the blood itself.

The second condition of which I spoke as essential to the healthy process of nutrition, is,—

A regular supply of appropriate blood, in or near the part to be nourished.

The proofs of the necessity of this condition must be familiar to all. Instances will at once occur to your minds, in which too little blood being sent to a part, it has suffered atrophy: others, in which the supply being wholly cut off, mortification has ensued: others, in which the blood being stagnant in a part, has not efficiently contributed to its nutrition.

If I can give interest to this part of the subject at all, it is only by adducing interesting examples of the fact. Reserving examples of merely diminished nutrition to a future lecture, I will mention now only some of those which the museum displays,

of Nutrition wholly stopped by the absence or deficiency of fresh blood.

This is a specimen from Mr. Swan's donations:—the larynx of a man who, while in low health, cut his throat, and suffered so great a loss of blood that the nutrition of one of those parts to which blood is most difficultly sent, became impossible, and before he died, his nose sloughed.*

The case is analogous to one which you may remember is recorded by Sir Benjamin Brodie.† A medical man wished to be bled, in a fit of exceeding drunkenness; and some one bled him,—bled him to three pints. He became very ill, and next day both his feet were mortified, from the extremities of the toes to the instep.

This specimen, presented by Mr. Guthrie, exhibits a mortified, *i. e.* a completely un-nourished, leg, from a case in which the femoral artery was obliterated near the groin through disease of its coats. The leg was amputated by Mr. Guthrie with justifying success; for the stump, though cut at some distance below the obliteration of the artery, did not slough, and the patient, an elderly lady, died only of exhaustion.‡

As a similar, and very rare, example of sloughing after the obliteration of a main artery, I may refer to this drawing of a large slough in the very substance of one of the hemispheres of the cerebrum, in consequence of a wound of the supplying common carotid,—a wound made by a tobacco-pipe thrust into the bifurcation of the carotid, and nearly closing its channel. The case is described by Mr. Vincent in the last volume of the *Medico-Chirurgical Transactions*.§

Here, also, is a specimen in which dry gangrene ensued in very unusual circumstances. While I was a pupil at St. Bartholomew's Hospital, a woman 48 years old, died, under the care of Mr. Earle, who had received some injury of the femur eighteen months before death. Whether it were a fracture, or indeed what it was, cannot now be said; but the injury was followed by enlargement of that portion of the wall of the femur with which the artery and vein are nearly in contact as they pass in the sheath of the triceps adductor muscle. At this part, then, the vein is compressed, and the artery, though not distinctly compressed, appears to have been hindered from enlarging. The consequence was dry gan-

* The specimen was exhibited from the Pathological Museum of the College of Surgeons, No. 1831.

† Lectures Illustrative of various subjects in Pathology and Surgery, London, 1846, p. 336.

‡ The specimen is contained in the Pathological Museum of the Royal College of Surgeons (No. 141); and is described in the Pathological Catalogue, vol. i. p. 56.

§ Vol. xxix. p. 38.

* A Physiological Essay on the Thyroid Gland, 4to. London, 1845; and, The Comparative Anatomy of the Thyroid Gland, in the Philosophical Transactions, 1844, Part 2.

grene of the leg, which slowly destroyed life, and which had no other apparent cause than this.*

Here are specimens, more interesting, perhaps, for the history of surgery, than for pathology. One is a tibia and fibula, the lower ends of which, together with the whole foot, perished in consequence of the obstruction of the circulation by an aneurism in the ham. It is an Hunterian specimen; and surely we may imagine that sometimes Mr. Hunter would contemplate it with pride, to think how rare such things would be in after times; for here is a strong contrast: the limb of a man who once had an aneurism like the one which in the former case was so destructive, yet on whom Hunter was permitted to confer fifty years of healthy life by his operation of tying the artery at a distance from the diseased part. The museum of St. Bartholomew's owes this rare specimen and most interesting relic to the zeal of my colleague, Mr. Wormald. The patient was the fourth on whom Mr. Hunter performed his operation. He was 36 years old at the time; and though the tumor was not large, yet the whole leg was swollen, the veins were turgid, and he was exhausted, and in such bad health that the case seemed desperate; but he recovered, and lived, as I have said, fifty years. The artery was tied in the sheath of the triceps muscle; and in this operation, for the first time, Mr. Hunter did not include the vein. The preparation shews the whole length of the artery obliterated from the origin of the profunda, to that of the anterior tibial, and the aneurismal sac, even after fifty years, not yet removed, but remaining as a hard mass like an olive.†

Now, the supply of appropriate blood, of which these specimens prove the necessity, must be in or near the part to be nourished. We cannot say exactly how near it must be, but, probably, all that is necessary is, that the nutritive material should admit of being imbibed in sufficient quantity into the substance of the part to be nourished. For imbibition must be regarded as the means by which all parts supply themselves with nutritive matter: thus deriving it from the nearest blood-vessels, the blood-vessels

themselves being only the channels by which the materials are brought near. The blood-vessels thus serve alike for the nutrition of the vascular, and, as we call them, the non-vascular parts, the difference between which, in this regard, is really very little. For the vascular, the nutritive fluid is carried in streams into the interior: for the other, it flows on one surface: but for both alike, the parts have to imbibe the fluid; and though the passage through the walls of the blood-vessels may possibly effect some change in the materials, yet all the business of formation is, in both alike, outside the vessels. Thus, in muscular tissue, the fibrille in the very centre of the fibre nourish themselves; yet these are distant from all blood-vessels, and can only by imbibition receive their nutriment. So, in bones, the spaces between the blood-vessels are wider than in muscle: yet the parts in the meshes nourish themselves, imbibing materials from the nearest source. And in the non-vascular epidermis, though no vessels pass into its substance, yet it imbibes nutritive matter from those of the immediately subjacent cutis: and maintains itself, and grows. The instances of the cornea and vitreous humour are stronger, yet similar.

There is, therefore, no real difference as to the mode in which these tissues obtain their nutriment; and, sometimes, even the same tissue is in one case vascular, in the other not,—as the osseous tissue, which, when it is in masses or thick layers, has blood-vessels running into it; but when it is in thin layers, as in the lachrymal and turbinated bones, has not. These subsist on the blood flowing in the minute vessels of the mucous membrane, from which, on the same plan, the epithelium derives nutriment on one side, the bone on the other, and the tissue of the membrane itself on every side.

It is worth while to remember this, also we could not understand how the non-vascular tissues—such as the cornea, the hair, and the articular cartilages, and, as I suspect, the various cuticles,—should be liable to diseases proper to themselves, primarily and independently.

Neither, except by thus considering the subject, shall we be clear of the error and confusion which result from speaking of the "action of vessels:" as we say, the healthy or disordered action, the increased action, of vessels, as if the vessels really made and unmade the parts. We have no knowledge of the vessels as anything but carriers of the materials of nutrition to and fro. These materials may, indeed, undergo some change as they pass through the vessels' walls: but that change is not an assuming of definite shape—the vessels only convey and emit the "raw material," and the parts make it up.

* For a further description of this preparation, see the published Catalogue of the Anatomical Museum of St. Bartholomew's Hospital, First Series, No. 134.

† No. 710 in the Pathological Museum. A description of it will be found in one of the forthcoming volumes of the Pathological Catalogue.

‡ A description of the above preparation may be found in the Catalogue of the Museum of St. Bartholomew's Hospital, vol. i. Series 13, Sub-Series F. No. 4. The case is recorded in the "Transactions of a Society for the Improvement of Medical and Surgical Knowledge," vol. i. p. 138; and in Mr. Palmer's edition of Hunter's Works, vol. iii. p. 604.

each after its own fashion. The real process of formation of tissues is altogether extravascular, even, sometimes, very far extravascular, and its issue depends on the affinities (if we may so call them) between the part to be nourished and the blood.

The third condition stated to be essential to the healthy nutrition, is a certain influence of the nervous system.

Of late years, the current of opinion has run against the belief of this; and, of those who admit some influence of the nervous system upon the formative process, many do it, as it were, grudgingly and doubtfully. They hold that at most the influence is exercised only indirectly, through the power which the nervous system has of altering the size of the blood-vessels; or that the nervous system influences only the degree, without affecting at all the mode, of nutrition in a part.

The chief argument against the belief that the nervous system is always exercising influence on nutrition, and therefore always essential to its healthy course, is, that in plants and the early embryo, and in the lowest animals, in which no nervous system is developed, nutrition goes on well without it. But this is no proof that in animals which have a nervous system nutrition may be independent of it: rather, even if we had no positive evidence, we might assume that in ascending development, as one system after another is added or increased, so the highest, and highest of all the nervous system, would always be inserted and blended in a more and more intimate relation with all the rest. This would, indeed, be only according to the general law, that the interdependence of parts augments with their development. And, in fact, we find this is so; for not only will various conditions of the Mind, acting through the nervous system, variously affect the formative processes in the whole body, but there is scarcely an organ the nutrition of which may not be affected by the Mind. It is scarcely necessary to adduce examples of a fact so often illustrated; yet I may mention this one:—Mr. Lawrence removed several years ago a fatty tumor from a woman's shoulder; and, when all was healed, she took it into her head that it was a cancer, and would return. Accordingly, when by accident I saw her some months afterwards, she was in a work-house, and had a large and firm painful tumor in her breast, which, I believe, would have been removed, but that its nature was obscure, and her general health was not good. Again, some months afterwards, she became my patient at the Finsbury Dispensary: her health was much improved, but the hard lump in the breast existed still, as large as an egg, and just like a portion of indurated mammary gland. Having heard

all her account of it, and how her mind constantly dwelt in fear of cancer, I made bold to assure her, by all that was certain, that the cancer, as she supposed it, would go away; and it did become very much smaller, without any help from medicine. As it had come under the influence of fear, so it very nearly went under that of confidence. But I lost sight of her before the removal of the tumor was complete.

Cases of this kind are hardly rare; and there are other cases in which the influence of the nervous system alone, quite independent of the Mind, is as clearly shown. Of course, such cases can only be drawn from those of abstraction of the nervous influence; the effects of which are most plainly expressed in the nutrition of parts exposed to external agencies, as the integuments generally, the extremities, and other external parts.

Here is an example of central penetrating ulceration of the cornea, in consequence of destruction of the trunk of the trigeminal nerve, by the pressure of a tumor near the pons. The case is related by Mr. Stanley, in the first volume of the *MEDICAL GAZETTE*.* The whole nutrition of the corresponding side of the face was impaired; the patient had repeated attacks of erysipelas inflammation, bleeding from the nose, and, at length, destructive inflammation of the tunics of the eye, and this ulceration of the cornea.†

This is the hand of a man, whose case is related by Mr. Swan, (the donor of the preparation) in his *Treatise on the Diseases and Injuries of the Nerves*‡. The median nerve, where it passes under the annular ligament, is enlarged, with adhesion to all the adjacent tissues, and induration of both it and them. A cord had been drawn very tight round this man's wrist seven years before the amputation of the arm. At this time, it is probable, the median and other nerves suffered injury, for he had constant pain in the hand after the accident, impairment of the touch, contraction of the fingers, and (which bears most on the present question) constantly repeated ulcerations at the back of the hand.§

Mr. Hilton has told me this case:—A man was at Guy's Hospital, several years ago, who, in consequence of a fracture at the lower end of the radius repaired by an excessive quantity of new bone, suffered

* Page 531.

† The specimen is preserved in the Museum of St. Bartholomew's Hospital; and a further description of it may be found in the published catalogue of that museum, Vol 1. Ninth Series No. 9.

‡ Page 60.

§ This preparation is preserved in the Pathological Museum of the College of Surgeons, No. 2177.

compression of the median nerve. He had ulceration of the thumb, and fore and middle fingers, which had resisted various treatment, and was cured only by so binding the wrist that, the parts on the palmar aspect being relaxed, the pressure on the nerve was removed. So long as this was done, the ulcers became and remained well; but as soon as the man was allowed to use his hand, the pressure on the nerves was renewed, and the ulceration of the parts supplied by it returned.

Mr. Travers, in his *Further Inquiry concerning Constitutional Irritation*,* mentions a case in which a man was paralysed by fracture of the lumbar vertebræ. He fractured at the same time his humerus and his tibia. The former, in due time, united: the latter did not.

Sir B. C. Brodie mentions the having seen mortification of the ankle begin within twenty-four hours after an injury of the spine.†

It would be easy to multiply facts of this kind—and that without adducing instances of experiments on lower animals, which, though they be corroborative, cannot be fairly applied with much weight here, since the probability is that the influence of the nervous system in nutrition increases uniformly and commensurately with its development. I will only refer, in general, to the numerous examples of the little power which paralysed parts have of resisting the influence of heat—the sloughing after injury of the spinal chord—the slower repair and reproduction of parts whose nerves are paralysed or divided—all alike contributing to prove that the integrity of the nervous centres and trunks which are in anatomical relation with a part, is essential to its due nutrition, or, at the least, is essential to its capacity of maintaining itself against the influence of external force—which capacity is, indeed, itself an expression of the formative power.

And all this is strengthened by the consideration of the influence of the nervous system on secretion, which is so nearly identical with nutrition: and, I may add, by the connection which manifestly exists between the development of the brain and the power of maintaining a steadfast temperature by the development of animal heat, as illustrated this year by Professor Owen.

Probably no tissue is wholly exempt from this influence of the nerves. In the cuticle it is manifest; and, for its influence in acting even through a considerable distance, I mention this case, as one in near relation to those in which the hair grows quickly grey in mental anguish. A lady, who is subject to

attacks of what are called nervous headaches, always finds next morning that some patches of her hair are white, as if powdered with starch. The change is effected in a night, and in a few days after, the hairs gradually regain their dark brownish colour.

If, now, we may take this influence of the nervous system to be proved, we may consider the question—by or through what class of nerves is the formative process influenced?

Indirectly, it is certain that the motor or centrifugal nerves may influence it; for, when these are paralysed, the muscles they supply will be inactive, and atrophy will ensue, first, in these muscles: then, in the bones of the limb, (if a limb be the seat of the paralysis,) for the bones, in their nutrition, always observe the example of their muscles: and, finally, the want of energy in the circulation, which is, in some measure, dependent on muscular action, will bring about the atrophy of the other tissues of the part. Hence, after a time, the evidences of paralysis of the facial nerve may be observed in nearly all the tissues of the face.

But the effects of destruction of the trigeminal nerve, while the motor nerves of the parts which it supplies are unimpaired, proved that a more direct influence is exercised through sensitive or sympathetic nerves. The olfactory, optic, third, fourth, sixth, and facial nerves, may be one and all destroyed, yet no disturbance of the nutrition of the nose or eye may ensue. After destruction of the facial, indeed, there may be inflammation of the eye from irritants, which the paralysed orbicularis palpebrarum cannot shut out or help to remove; but neither this nor any other injury of these nerves is comparable with the consequences of the destruction of the trigeminal;—consequences which in the rabbit are manifest, and may be very grave, within a day of the destruction of the nerve, and may be completely destructive of the eye within three days.

The direct influence of the trigeminal nerve, with its mingled sensitive and sympathetic fibres, is confirmed by some cases which are said to have shown that after injuries or diseases of the spine, sloughing of the bladder and other parts has occurred earlier and more extensively when sensation than when motion alone was lost.

Mr. Curling, also, has recorded a case* which somewhat strengthens the view. Two men were, at nearly the same time, taken to the London Hospital with injury of the spine; one had lost only the power of motion in the lower extremities; the other had lost both motion and sensation; and at the end of four months the atrophy of the

* Page 436.

† Lectures on Pathology and Surgery, 1846, page 309.

* In the *Medico-Chirurg. Trans.*, vol. xx. page 242.

lower extremities in this last was far more advanced than in the other.

None of these cases, however, enables us to say whether the influence on nutrition is exercised through sensitive fibres of the cranio-spinal system, or through sympathetic fibres; nor do I think this question can be yet determined.

On the one side we have the fact (according to Magendie and Longet) that the destructive inflammation of the eye ensues more quickly after division of the trigeminal nerve, in front of the Casserian ganglion, than when the division is made between the ganglion and the brain. From this we might assume, that filaments derived from the ganglion, or passing through it from the sympathetic nerve, are those through which the influence on nutrition is exercised. And this would be supported by the fact that increased secretion of tears and mucus from the eye, and increased redness of the conjunctiva, are ordinary consequences of the extirpation of the superior cervical ganglion of the sympathetic in dogs.

But, on the other side, we have the facts of defective nutrition in consequence of injuries of the spinal chord, when the sympathetic centres are uninjured; as in the cases already mentioned from the works of Sir B. C. Brodie and Mr Travers. For this view, also, is the occurrence of general atrophy in consequence of diseases of the brain.

The case really seems to be, that the influence may be exercised through either kind of nerves;—but perhaps it may be well to defer judgment till fresh evidence is obtained.

MODE OF PROVIDING A WET NURSE ON A SUDDEN EMERGENCY.

THE inhabitants of Bona Vista (Cape Verd Islands), have a ready and most extraordinary mode of providing wet nurses on any sudden emergency, or when occasion requires. Any woman who has once borne a child, and is still within the age of child-bearing, is available for this purpose. The details of the process are somewhat long, but the main part of it consists in the continued fomentation of the mammae with a decoction of the leaves of the *iatropha curcas*, and suction of the nipple. I saw the experiment tried most successfully, a copious flow of milk having been produced on the fifth day of the application of the decoction in a woman who had not nursed, and in whose breasts there had been no milk for twenty months.

—Dr. M'William's Report.

The *iatropha curcas* is a West Indian plant, the seed of which is commonly known under the name of physic-nut. All parts of the plant, but especially the seeds, contain an acrid, irritating oil, which produces vomiting and purging.

NOTES OF A CLINICAL LECTURE, DELIVERED

By CÆSAR HAWKINS, Esq.

At St. George's Hospital, May 10th, 1847.

[Taken by Mr. WALTER THOMSON.]

Cases of Hospital Gangrene.

GENTLEMEN,—The subject which I intend to bring under your notice, is one connected with many interesting particulars, and also not very often seen, namely, "hospital gangrene."

Let us begin by defining what it is—what is meant by the terms hospital gangrene, phagedæna gangrenosa, gangræna nosocomialis; for it has been called by all these names. I may best explain, by describing three forms under which destruction of parts may take place in a wound or ulcer.

First, then, by *phagedenic ulceration* you will understand a state of things in which there is a removal of parts by ulceration, without sloughing, the ulcerative predominating over the reparative process, and progressing sometimes rapidly and extensively; the ulcer having a jagged edge, (putting on, as the name implies, an appearance as if bitten away); having a surface, not smooth, but both it and the margins being uneven and irregular; the ulcer being generally superficial, but sometimes deepening in proportion to the extension of the surface of the ulcer. It occurs under different circumstances. In scrofulous persons it may continue for years together, affecting the arm or the leg, or attacking the nose and face; in which latter situations it goes by the name of "scrofulous lupus." In these cases it is connected with some peculiarity of the constitution,—not simply scrofulous, however, for it is a disease of only rare occurrence,—while other evidences of the strumous diathesis are, as you know, exceedingly common. It often occurs also in connexion with the poison of syphilis or of mercury, and you see it affecting both primary and secondary sores; frequently, when occurring with the latter, going on and spreading for months at a time, and, with intervals, even for years, irregular in shape, and healing sometimes at one part and spreading at another: and you may see a large surface covered with a thin irregular cicatrix, the consequence of such ulceration. Phagedenic ulcers sometimes spread much more rapidly, however, as in cases of enlargement of the absorbent glands in the groin, in patients debilitated by mercury and

syphilis, going more deeply than in secondary sores of the skin; and the ulcer of a bubo in a few days becoming as large as the palm of the hand, and sometimes ending in the patient's death by opening some large artery; and where the superficial course of the femoral artery exposes even that vessel to great danger, or some of its branches, which bleed largely from direct communication with the trunk. Here also is a poison, not directly causing the rapid extension of the ulcer, but meeting with some peculiarity of constitution, perhaps the effect of intemperance, perhaps of the use of mercury, and the combined influence of these causes producing phagedenic ulceration.

Secondly, we have the *gangrenous ulcers*. In these there is no distinct well-marked ulceration, but the extension of the ulcer takes place by the parts affected at once losing their vitality. You may every day see an ulcer of the leg putting on a sloughy appearance, becoming healthy again, again changing its nature into an indolent or irritable ulcer: but occasionally a common ulcer becomes gangrenous, its surface becomes covered with a black or dark brown slough; the margin of the skin, to the distance of perhaps one-third or half an inch, black and dead, and the cellular tissue adjoining infiltrated with serum, swollen and puffy, and the surface of the skin for some distance around the ulcer of a dull livid hue. The sloughs easily separate from the other parts from their softness, and next day perhaps a further line and deeper surface of slough is seen, and thus the ulcer goes on rapidly increasing in depth and circumference, with great loss of substance from death of the infiltrated parts, with an exceedingly foetid discharge, and with the possibility of its proving fatal to the patient in the same manner as in the last form; and this state of things is attended by much pain and fever, and prostration of strength, and yet, perhaps, when the morbid action has ceased, the exposed surface becomes healthy, and quickly heals.

One peculiar form of gangrene may be called the "painful gangrenous ulcer." I have not seen an example for some years, but formerly at the Lock Hospital I had frequent opportunities of watching the disease, and now and then since that time. It occurs chiefly in low prostitutes; not connected with any syphilitic taint, but depending probably upon the excess in spirits and excitement of various kinds to which the irregular mode of life of these persons exposes them. It commences generally upon the nates, with a small black painful spot, and, in so short a time perhaps as four days, extends over a surface eight or nine inches in circumference and three inches deep; apparently, that is, for the great

swelling and elevation of the margins cause the sore to appear very deep and large, while after the slough has separated a healthy ulcer is left of not, it may be, half the size, it was, while the several tissues were filled with blood and serum. Another peculiar form of gangrene of a fatal kind takes place in the same situation as this, about the pudenda, in young children, and is often fatal.

Lastly, there is the *sloughing phagedena*, which consists of neither the first nor the second variety simply, but is formed by a mixture of both; there is some ulceration and some sloughing, and by the combined effect of the two processes, the ulcer spreads rapidly in a few days. Sloughing phagedena shows itself chiefly in two forms, if not essentially different from each other, though unlike in appearance. Of this form of ulceration there have been two or three instances lately under my care, which have shown you both varieties of sloughing phagedenic ulcer.

One of these was seen in Richard Hilditch, æt. 41, who was admitted on April 7th into Fitzwilliam Ward, with, as our notes inform us, "sloughing excavated ulcers on the right leg, one on the outer side being as large as the palm of the hand. The whole leg is cedematous, and the ulcers have been slowly increasing in size. He has lived well, but, regularly."

On the 8th, I ordered green dressing (a balsamic stimulating application), with water dressing over it, to be applied to the sore; and put him upon ordinary diet. He had also some enlargement of the heart, with much cough, which of course made the circulation of the legs less healthy, for which he was placed under the physician's care.

These sloughing ulcers presented nothing that is not seen every day; but a change soon took place.

16th.—"Ulcers are more painful and inflamed, bleeding and sloughy, with the edges ragged.—A stale-beer position to the sore."

17th.—"Pain not so violent; ulcers looking more healthy; pulse feeble and intermitting.—*Spiritus Vini Gallici*, ʒvj. *quætidie*. *Pulv. Opii*, gr. ʒ. a. noct.

On the 18th, "has had rigors, followed by sweating. Bowels not open; ulcer painful, with the surface sloughy, and discharge foetid."—*R. Lotionis Plumbi*, *Oj.*; *Ext. Conii*, ʒj. *ft. Lotio ulceri applie.*

R. Tr. Opii, ℥xx.; *Spiritus Ætheris Nitr.* ℥xv.; *Ammonie Sesquicarb.* gt. v.; *Mistura Camphoræ*, ʒiss. *Piat. Hamat. &is horis sumend.*

19th.—"Passed a comfortable night; ulcers more healthy, and less painful. Feels altogether better."

22d.—"Sickness, which has been present for last day or two, has ceased. Ulcers much cleaner, with less redness around, and the discharge no longer offensive."—Tr. Opii, ℥x. tantum.

24th.—"Ulcers quite clean and granulating."

26th.—"Ulcers not so healthy, looking weak."—Pilulæ Hydrargyri, gr. iij. h. n. Haust. Rhei, ʒj. cras mane.

℞ Acidi Nitrici, ℥½ ad ʒj. ft. Lotio ulceri applicand.

30th.—"A little bleeding from the granulations; ulcers cicatrizing at the edges."—Tr. Opii, ℥v. tantum.

May 3d.—"No more bleeding; sores cicatrizing."

7th.—"One ulcer quite healed; the one on the outer side of the leg healing rapidly. Adjacent skin less red, and the sore not painful."

The report for to-day tells us, that a "blue sloughy spot has appeared in the centre of one of the ulcers." I have ordered green dressing to be applied; and I have little doubt, from the state the man is in, that it will not spread to any extent. Now, you may remember, that in him there was at the time when the sloughing commenced, a sudden effusion into the granulations and cellular tissue below them, and into the skin about the sore, so that the whole swelled up with the appearance of an uniform whitish brown mass, without any distinct granulations or margins; there were no black sloughs, nor very rapid extension of the disease: and what little pus was secreted was thin, foul, and offensive. Rigors, sickness, and fever, preceded and accompanied the sloughing; but this constitutional disturbance is not always great. You saw that under the use of the remedies I administered, in a few days the unhealthy action was completely stopped, and the sores have since made rapid progress towards a cure.

Another example, but in a very much milder form, occurred in a young man in Wright's Ward, named Thomas Witcher, who was admitted on March 10th, with ulceration of the cartilages of the knee-joint, for which disease I was obliged to amputate at the middle of the thigh, on April 8th. The stump was at no time very healthy, yet it went on healing and contracting up to the 26th, when he complained of much pain—no more, however, than you often hear complained of in nervous persons; but, combined with it, there was a foul discharge, and he had occasional flushes. I therefore ordered him, Haust. Quinæ, ʒss.; Magnesie Sulph. ʒss. bis in die s. And on

April 29th, the notes tell us, "The stump is more healthy, and less painful.

The discharge is not so fetid, but he looks pale, and has a loaded tongue."

On May 7th, it put on the same appearance as in Hilditch. There was the same puffy and indistinct appearance of the sore, with pain and infiltration of serum in the parts around; and the wound, which was the day before not the size of a fourpenny-piece, was now larger than a shilling. The bowels were relaxed, and I ordered him Haust. Cinchonæ, ʒiss.; Confectionis Aromaticæ, gr. xv. bis die, with Friar's Balsam to the sore; and this was followed by the best results, for the notes for May 10th are, "wound not at all sloughy:" and the stump has now, in fact, almost healed.

A third example of sloughing phagedæna, but differing in its appearance from the other two, was presented in the case of John Alexander, who occupies the bed opposite to Hilditch, and on whom I operated, about twelve months ago, for the removal of carious bones from the foot. After the operation he left the hospital, in consequence of bad health and threatened phthisis, but the disease returning in the bones which were left, I was obliged to amputate the leg, the wounds healing by the first intention. When the stump had healed, he went out of the house for a short time, in order that the parts might get firm and consolidated for the reception of an artificial foot.

On February 7th, however, he was again admitted with, our notes say, "a rather large abscess in the upper and inner part of the thigh, about three inches below Poupart's ligament, with swelling and tenderness of the glands about the saphenous opening." I punctured the abscess, and on the 12th, in consequence of the enlarged glands projecting so as to obstruct the escape of the pus, I made a cross cut. I will not occupy your time by discussing the treatment necessary for such glandular enlargements, but will merely mention, that I was obliged to destroy them with troches, thus leaving a deep ulcer, which on April 9th was filling up, and looking healthy. On April 12th, the notes are, "Has felt sick and feverish."—℞ Pil. Hydrarg. gr. iij. statim sum. Haust. Rhei postea.

On the 14th, "Fever has subsided; ulcer not much improved."—Repet. pil. et Haust.

16th.—"Yesterday and to-day has complained of headache and nausea; ulcer more painful, and putting on a sloughy character,"—this being the same day on which Hilditch's ulcer became gangrenous.—℞ Ammonie Sesquicarb. gr. vj. ℞ Opii, ℥x.; Mist. Camphoræ, ʒiss. 6tis horis. Bread poultice to the ulcer.

17th.—"Skin undermined at the edges;

ulcer increasing; headache; tongue white; bowels confined; face flushed; does not sleep."—Augment. dos. Tr. Opii ad ℥xx.

18th. — "Passed a more comfortable night; more eversion of the edges of the ulcer, and more redness around. Discharge very foetid; bowels not open." Olei Ricini, ℥ss.; Lot. Sodæ Chlor. ad ulcer. applic.

19th. — "Has been frequently sick; headache; tongue loaded; bowels open; ulcer looking more sloughy. Passed a bad night, and had much pain."—R Morphia Acetatis, gr. ½; Spiritus Ætheris Nitrici, ℥xx.; Haust. Pimentæ, ℥ss. 6tis horis. Spiritus Vini Gallici, ʒij. in die. The ammonia to be omitted, and to have beef-tea and arrow-root for diet.

21st. — "Less redness around the ulcer, which is looking deeper owing to the separation of some sloughy portions; it is not extending in circumference; the surface is cleaner, and the discharge not so foetid; there has been slight oozing of blood."—Liquoris Opii Sedativi ℥xx. Mist. Camph. ʒij. 6tis horis.

22d. — "Was restless during the night. There was hæmorrhage to the extent of two or three ounces from a small artery in the centre of the ulcer; bleeding was checked by the application of turpentine; hardly any redness of the adjoining skin; ulcer still looking sloughy; feels weak."—Vini Albi ʒij. in die.; Haust. Rhei ℥ss. c.; Conf. Aromat. ʒss. mane.

23d. — "A little more oozing has taken place from the ulcer, the surface of which is cleaner."—Eau de Brocchieri applied.

24th. — "More hæmorrhage. Tinct. Ferri Sesquichlor. applied with success. There is no redness nor hardness around the ulcer; surface looking cleaner, with florid granulations, and a slight discharge of healthy pus."

26th. — "Ulcer quite healthy, and there has not been any return of the hæmorrhage. The saphena vein, and a branch leading to it, are exposed for about an inch and a half, and covered with granulations."—Liquoris Opii Sedativi ℥x tantum.

29th. — "Pain on left side of chest, with slight cough; darting pain on inspiration; slept badly."—Vide Medicum.

May 7th. — "Ulcer healing slowly; skin not undermined; veins covered with granulations."—Acidi Nitrici ℥viii.; Aquæ ʒxij. ft. lotio ulceri applicand.

Now, you may have observed that in him there was no such rapid infiltration of the cellular tissue, no proper prominent whitish slough, as in Hilditch; but that small black spots formed in the edges of the surrounding skin, some being as large as a pea, others half an inch or more in diameter. You saw, also, that these spots separated in a day or two after their appearance, that fresh ones

formed, that these changes continued during several days, and that the surface of the sore was sloughy. You may have noticed, also, an inflamed circle around the ulcer, of a bright red or pink arterial colour, very different to the purple, dark, livid appearance around the sore of the man in the opposite bed. The extension continued also a much longer time, though it did not double the previous size of the ulcer.

These two forms are very distinct from one another; not in their effects, for they both cause rapid and extensive destruction of the affected tissues, but they differ in appearance, and in the change which takes place in the capillary vessels; in both cases the parts die, but in one more slowly, with infiltration into the cellular tissue, and granulations of the ulcer; in the other, the intensity of the inflammation (that is, the weakness of the circulation in the capillary vessels), kills some parts at once, so that black sloughs are formed with little or no effusion of serum within them; and in a bad case one uniform black slough forms over the whole surface, affecting the sore and the margin of the skin, rapidly extending by a fresh circle, and fresh surface of slough, till the extent and depth of the sore are fearful, every texture giving way before the gangrenous inflammation. In Alexander, you saw that there was hæmorrhage from the ulcerated surface. This did not occur at the time when the disease was most rapidly spreading, for at that time the violence of the inflammation causes coagula to form in the small vessels, and they are thus effectually prevented from pouring out blood. But when the sloughs separate, or the sloughing phagedena is progressing more slowly, this process does not take place to the same extent, and the vessels bleed every time they are opened by the ulceration. It is remarkable how much resistance the vessels offer to the ulcerative process. In this case you saw the trunk of the saphena vein with one of its tributaries extending quite across the surface of the ulcer, and yet remaining uninjured, and prominent on the surface; for the hæmorrhage which occurred took place, as it often does to a great extent, from the small arteries. I operated upon a patient some years ago for the removal of a portion of necrosed bone from the leg. Five days afterwards, the wound took on ulceration of a sloughing phagedenic character, and hæmorrhage suddenly took place from the ulcer to such an extent that before the house-surgeon, who was only in an adjoining ward, could reach the patient, he had lost upwards of three pints of blood, and was quite blanched, the blood spouting up to a considerable height, so that the house-surgeon had no doubt it came from the popliteal artery having been bruised by the

operation. I tied the femoral artery, and soon after the ulcer became healthy without the hæmorrhage recurring. The sloughing, however, came on again some weeks afterwards, and was attended by a return of the bleeding, and on coming to the hospital I found Mr. Keate endeavouring to find its source: as, however, some diseased bone was again exposed, it seemed better to amputate the thigh, which was done with success; and on examining the limb, I found that the bleeding had not taken place on either occasion from the popliteal artery, nor from any large vessel, but only from the smaller ones of the sloughing surface.

Although the vessels resist the ulcerative process at the time, yet they may be greatly weakened by it, as in the remarkable case from which this preparation was taken. A man in the Lock Hospital had sloughing phagedæna supervening upon ulceration connected with diseased glands in the groin. After he recovered, and the part had quite healed, he heard a snap in the groin on some exertion, and a swelling, solid, elastic, and not pulsating, and altogether very obscure in its nature, was formed soon afterwards in the groin. It was cut down upon, and an attempt was made, at which I was present, to dissect it out, under the impression that it might be of a malignant nature. Upon reaching the tumor, some coagula were found in the cellular tissue, such as are sometimes presented by malignant disease, but it had no boundary, and the opening was closed. You may perceive that both the inguinal artery and vein had been torn across, and the ends separated to some distance from each other, blood having been diffused extensively about the groin, and the patient having died of irritation.

Such, then, are these three forms of ulceration—phagedæna, gangrene, and sloughing phagedæna; and it is to the latter form that the cases I have cited belong; one, as you have seen, easily yielding, one continuing for five or six days, and a third of longer duration, and complicated with hæmorrhage. Besides these, there have been several other cases in the hospital under the care of my colleagues; namely, 1 under Mr. Keate, 2 under Mr. Cutler, 2 under Mr. Tatum, and 1 under the care of Mr. C. Johnson; making, with my own, nine similar cases in the last two or three weeks. Of my colleagues' cases the ulceration affected two stumps after amputation; two were cases of necrosis, which have not been able to be operated on on account of it; one patient had a strumous ulcer in the nates, and another had an abscess in the axilla, and was nearly dying of the sloughing*.

* Some other cases have also occurred since the lecture.

Now the term hospital gangrene is a general term applied to the two latter of these varieties when they attack many patients at the same time; and, although the instances you have seen have been all of the nature of sloughing phagedæna, which is the most common, yet when hospital gangrene attacks the patients collected together in a crowded institution, as in military or naval hospitals, it may consist almost entirely of the gangrenous form. In December and January last, in a corner of the quadrangles of St. Bartholomew's Hospital, there were ten or eleven patients affected with such gangrene, of a very rapid and dangerous character, and one patient out of the number died, and the surgeons of the institution do not remember its occurrence there before. Hospital gangrene has never appeared here to any extent; I have occasionally seen instances of it here, and more formerly than of late; but University College Hospital was visited by it in 1841, and the Middlesex in 1835.

Sloughing phagedæna, and gangrenous ulceration, constitute hospital gangrene, but is there anything peculiar in it? Does it depend in any peculiar way upon the bad air of the hospital? You have, I think, seen enough of the disease to convince you that it does not. In January last, at the same time that it existed at St. Bartholomew's, three cases were seen in Grosvenor Ward; two were my own patients; one of them, a young man named Bacon, admitted with scrofulous caries of the metatarsal bone of the great toe, which I afterwards amputated; another a scrofulous boy with necrosis of the fibula, almost the whole length of which you will remember my removing by operation after he got well: and in both the gangrene had shown itself before they were admitted, and it lasted for several days afterwards. In going through the ward at the same time that these persons were admitted, I recognised the disease in another patient of Mr. Tatum's by the horrible fœtor by which it was accompanied, and on inquiry I learnt that in him also it had commenced before he came into the hospital, and none of our own patients in the hospital were at that time affected. The term hospital gangrene is therefore applicable to the disease because it often affects many patients in an hospital, and not because it is dependent upon any peculiar circumstance connected with the hospital itself, except so far as any disease is made worse in a hospital. It is caused, I think, by the condition of the atmosphere at the time, and I have generally noticed it when the state of the air has been such as to cause erysipelas, and other diseases of a low type. Still, there is no doubt that hospital patients, collected as they often are in very large numbers, are

more liable to be attacked by it than private patients. You know that the bad air of our wards, by weakening the powers of our patients, influences other diseases, and renders them more dangerous. Compound fractures, for instance, are attended by much more serious consequences in hospitals than they would be in the country; the deteriorated air of the former giving rise to bad symptoms not likely to occur in the latter: and, as all our patients are exposed to the same influence, it is reasonable to suppose that phagedæna attacking them would be of a more severe character than when occurring elsewhere, on account of the weakened powers produced by the hospital air. For the same reason, also, we should be likely to have many patients attacked at the same time if there was a condition of the atmosphere to make this disease epidemic. In a paper recently read at the Medico-Chirurgical Society, the hospital gangrene at St. Bartholomew's four or five months ago was attributed to the intense cold of the winter succeeding a sultry summer; but by other persons it has been said to have occurred in very hot weather following severe cold: it is probable, therefore, that it occurs as an epidemic from any circumstances which produce debility of the system. The disease is, therefore, rare, and, when it occurs, generally mild, in civil hospitals, which are generally well regulated, and with the air as pure as it is possible for it to be under the circumstances; while in military hospitals, with their crowded and often ill-ventilated wards and insufficient supplies, it frequently commits the most enormous ravages, spreading to such a degree that every lancet-puncture becomes a sloughing ulcer, rapidly increasing, especially when the minds and bodies of the wounded are lowered in tone by defeats, and too often proving fatal to those attacked.

Thus, then, hospital gangrene is sometimes epidemic. Is the disease also of an infectious nature? that is, is its spreading owing to peculiar emanations from the sores themselves poisoning the atmosphere? I think that it may be. I will give you the details of an experiment made by Mr. Blackadder, very often quoted to prove the contrary opinion. Some patients affected with hospital gangrene were placed by the surgeon under whose care they were in beds alternate with those of patients having healthy wounds. Care was taken that there should be no communication between these patients, who were warned of the consequences, and none of these healthy wounds were affected. But this negative evidence is contradicted by positive experience. Look at this occurrence. Bergmann, in a French hospital at Leyden, at a time when hospital gangrene was spreading rapidly on the lower floor of

the building, thinking that it depended upon the bad air of the hospital, caused an aperture to be made in the ceiling, thus establishing a communication between the lower ward and that above. In thirty hours the disease had appeared on the upper floor, the patients in which were previously unaffected, and those were first attacked whose beds were nearest to the aperture made for ventilation.

I believe, then, that the foul secretions of hospital gangrene may possess qualities capable of poisoning the atmosphere, and that, under certain circumstances, the air of a hospital may become contaminated, so as to make the disease from this cause *endemic*, when the condition of the hospital is such as to make the disease infectious. It thus becomes infectious, just as typhus fever may be made infectious: we admit the worst cases of it, without scruple, into our wards, with no apprehension of other patients, in these large rooms, being contaminated, but let a number of fever cases be collected together, or even a few of them, in ill ventilated places, and the worst form of gaol fever may take place, by which judges and juries, and every one submitted to the infectious exhalations, may be affected fatally by them.

Besides being epidemic, and sometimes infectious and endemic, is hospital gangrene also contagious? Is it contagious, so as to be carried, by the sponges or other means, from one patient to another, when not infectious,—i. e., when the secretions are not virulent enough to affect the air? It has been said by some that it spreads only by contact; and one of the recent cases at St. Bartholomew's was said to have been distinctly traced to contact of matter conveyed by a sponge. Doubtless the secretions of many diseases are capable of producing similar or analogous disorders in other persons by contact;—the pus of erysipelas, or inflamed cellular membrane, of a bad kind, will cause inflamed abscesses or erysipelas in those who injure themselves with it, as it poisons the blood of the patients themselves, and induces secondary abscesses. In the gangrene of the pudenda of female children you may see every surface with which matter comes in contact poisoned by it, and a fresh gangrenous sore formed, if care is not taken to keep the surfaces asunder; and in hospital gangrene the pus is equally poisonous, and requires to be washed off to prevent its spreading from this cause. A young woman was under my care, some years ago, who was attacked by phagedenic ulceration of the dorsum of the foot, which spread over the back of all the toes, so as to form one circular sore, with little distinction of the foot and toes from one another, because the toes lying in close contact when swelled by the disease, the secretion affected each in suc-

cession, when it touched another before it was allowed to spread round the toes to the bottom of the foot; she had three relapses of the disease in the course of six weeks. It would, therefore, be only reasonable to conclude (as experience seems to show) that the disease is contagious, and capable of being so propagated, if care is not taken to prevent the foul secretions from being carried from one patient to another.

But is there any proof that hospital gangrene is usually conveyed by either of these ways—by both infection and contagion at one time, or by either of them exclusively?—I should say, decidedly not.

Two of my patients, we have seen, were attacked in opposite beds in the same ward, and another patient has had the disease in the same ward, or at least in the adjoining ward, under the same nurse; but, then, the other cases have been scattered about in various wards; some on the women's side as well as the men's, without any communication between them, and under a variety of nurses. Again, if conveyed by contagion, you might expect that one surgeon would have a great number, from carelessness on his part, or on the part of his dresser; but the cases thus scattered have belonged to all the surgeons, shewing, therefore, that there has been a general cause in operation, affecting one patient in one ward and another in another ward, without any thing like probable infection or contagion. Such has always been the case when I have seen several cases at one time; and in civil hospitals I believe communication of the disease by infection or contagion to be the exception and not the rule. If a person had come into the hospital in January last, and seen the three cases I alluded to of hospital gangrene in one ward, while there were none elsewhere, he might have been inclined to have exclaimed, "there is the disease spreading by contagion by means of sponges,"—but then we have seen, that although all sent accidentally into this ward, all three of them were admitted with the disease already present, and admitted, too, from various parts of town and of the country, a general tendency to the disease being also shewn by its occurrence at the same time at St. Bartholomew's. So also is it, I believe, at the present time, with the cases you have seen begin in the hospital. It is curious that all these cases have been in different parts of the upper floor, which one would expect to be the most healthy, from better air.

In one patient you have seen a circumstance which may occasionally be observed, namely, a healthy ulcer on one side of the thigh in a boy with necrosis, while others were spreading with considerable constitutional disturbance. Some persons have supposed, from this circumstance in part,

that the disease is entirely local, but it is the exception and not the general rule, and commonly the state of system is seen to be bad before the ulceration or gangrene commence; and most of the ulcers in the same person, when there are several, are simultaneously or successively affected.

You have seen that two of the cases I have referred to more particularly were treated upon the same principle,—to each opium and ammonia, with brandy and good diet, were given, while the sore continued in the sloughy state, and you saw that in one of them (Hilditch) the unhealthy action soon stopped. In the other patient (Alexander) more difficulty was experienced in getting the opium to produce its good effects. I tried the tincture, and afterwards acetate of morphia, and they were both followed by sickness and head-ache, so that I was obliged to leave them off: but the *Liquor Opii Sedativus* was found to agree. In the third case (Witcher) no opium was required, as the gangrene was only threatening;—I increased, you saw, the strength of the tonic medicines he was taking, by giving him bark and aromatic confection, and omitting the saline purgative he was formerly taking with some quinine.

All you require in general, is, as far as the pulse and the inflammation round the ulcer will warrant, to give good diet with a moderate quantity of stimulus, more especially ammonia; and opium in sufficient quantity to allay the pain. I alluded to a form of gangrenous ulcer which occurs in prostitutes; I have been obliged, in these cases, to give as much as thirty or forty grains of solid opium in the course of the day before I could relieve the horrible pain which the patient was suffering. And in some cases of hospital gangrene, when the pain has been unusually severe, I have commenced with a dose of two grains, and have had occasion to repeat it every second hour, or even every hour for a few doses; of course, carefully watching its effects, and going on with a smaller quantity as soon as the violent pain was subdued. But in the cases now in the hospital there is no occasion to use this remedy to the same extent;—*Liq. Opii Sedativ. ℞. 6tis horis*, you saw, in Alexander's case, was sufficient to check the disease. A corresponding dose of the *Tr. Opii* sufficed for Hilditch, in whose case I was enabled to discontinue it altogether in about five days, though in the former I continued to administer it for a somewhat longer period.

The diet must be nourishing, but light and not solid if the tongue be loaded, or there is great heat of skin; and if this latter symptom be present, the ammoniated saline draught, with an excess of about five grains of the sesquicarbonate, and the opium, in

the form of Dover's powder, will be the best mode of administering your remedies;—when the state of the tongue will warrant, you may return to solid food. The pulse will guide you in the administration of brandy or wine, but the employment of these stimuli will not be often necessary at the commencement of the disease, although they may become useful at a later period, and in some cases no stimulus of this kind is required at all. The state of the bowels must be attended to, and a warm purgative, such as the *Haust. Rhei*, or a little *colocynth*, you will find the most appropriate means for regulating them. Mercury for this purpose is seldom indicated, though a small dose of blue pill or calomel may occasionally be necessary. In the employment of tonics you are to be guided by the condition of the tongue,—some of the preparations of bark, and bark combined with ammonia, are the best. You will see in the works of military writers venesection spoken of as useful, and you will see it stated that patients have requested to be bled, sensible of the benefit they have received from it. I never saw a case requiring it; I never saw a case in which the patient was not weak; not always, it is true, bearing stimulants, but yet weak; and I look to this depression as the chief predisposing cause of the disease.

With regard to local remedies—if the ulceration be purely phagedenic, or if it be attended with but little sloughing and is painful, soothing applications are the best. A drachm of the extract of conium to a pint of Goulard's lotion is a very good form of lotion, and was used in both of my patients; and if the pain be very severe you may add mxxvi. of Scheele's Prussic acid. The solution of opium is uncertain in its effects, and often aggravates instead of allaying the pain of an ulcer. Sometimes you will find plain water answer better than medicated applications; it may be applied cold if there be much redness around the sore; it had better be used tepid, with oiled silk over it, if the ulcer be weak, and the redness not vivid. If the ulcer have rather more of a sloughy character, stimulants will often rouse the vessels to a healthier action, and so do good; in the same manner as they are serviceable in cases of severe burn. The Peruvian balsam may be used, or the *Tinctura Benzoes C.*; and they must be thoroughly applied, so as to come in contact with every part of the ulcerated surface;—or the green dressing—*Unguentum Elemi Compositum*, mixed with Balsam of Copaiba, may be employed. A stale beer poultice acts in the same manner;—it did no good, you may have observed, in *Hilditch*. Great advantage is sometimes obtained from the chlorine lotion, a drachm of the strong solution to fifteen of water. This, applied over the

surface, often stops the disposition to slough, and has the additional advantage of correcting the great factor by which the disease is sometimes accompanied. It is when the sore is but moderately sloughy that the charcoal poultice, or one of Port wine, may be useful; they are but seldom used now, though often applied formerly.

In the third form, not phagedenic, nor sloughing phagedenic, (the mixed form, that is,) but gangrenous, the gangrene sometimes spreads so rapidly that unless it be stopped at once it may be attended with the greatest danger to the patient. Various applications have been used to destroy the whole surface next to the gangrenous textures, and consolidate the parts underneath the sloughs while they are separating, so that a healthy surface may be exposed when the dead portion comes away. The actual cautery has been much used for this purpose, but in this country it is not much used, nor do patients much like it, though it is an effectual remedy sometimes. I do not like the lunar caustic, it does not penetrate sufficiently deep; nor do I like arsenic, which some have employed; it is far too dangerous when applied to a large surface. The strong mineral acids are the best; the nitric or muriatic, for instance. The former is most used, and may be applied by means of a piece of wood, taking care to touch every part of the sore, so that the whole of the living part beneath may be affected by it: watch when the slough separates, lest there be any part left with a disposition to slough remaining; if there be, apply the acid again. None of our patients, I believe, have been bad enough to require this plan of treatment, which is a painful one; nor do I ever use it in sloughing phagedenic sores, but it is invaluable in the gangrenous form of disease.

By one or other of these means you may generally check the disease, and almost always prevent a fatal result. I never saw death occur, I believe, in any case of hospital gangrene; one patient of mine, however, was carried off, soon after the gangrene ceased, in consequence of an attack of erysipelas. In this man there were two parts of the body affected at the same time, and in each there was a different variety of ulceration; he had a phagedenic ulcer in the groin, with a little sloughing, and a rapidly extending gangrenous sore on the leg; the latter I stopped by applying nitric acid, not, however, before it had exposed the bone and destroyed some muscle; the other got well without any such application. This difference is an occurrence you not unfrequently see, and it arises from the parts near the centre of the circulation possessing a greater vitality than those more remote, the latter being, therefore, the worst. When the disease has ceased, the ulcers may be

treated in the common way by various applications; diluted nitric acid was used for each of our two patients, and agreed well,—so will sometimes solution of caustic, or red wash, or black wash, or whatever else seems appropriate to the condition of the ulcer.

Original Communications.

ON THE STRUCTURE AND FUNCTIONS OF THE SYMPATHETIC NERVOUS SYSTEM,

AS DISTINCT FROM, AND INDEPENDENTLY
OF, THE CEREBRO-SPINAL SYSTEM.

By T. SNOW BECK, Esq.
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IN a paper "On the Nerves of the Uterus," published in the Philosophical Transactions for 1846, I endeavoured to shew, by anatomical detail, that the organic fibres of Remak are true nervous fibres: that these organic or gelatinous fibres form a system of themselves, and constitute the true sympathetic system: that this system of gelatinous fibres is distinct in its anatomy, and consequently in its function, from the system of tubular or cerebro-spinal nervous fibres: that the tubular fibres are *all* derived from the brain and spinal cord, and that the gelatinous fibres take their origin at the ganglionic corpuscles of the different ganglia of the sympathetic: that although these two systems are frequently associated together, yet, by careful manipulation, they can be separated, and are still distinct: that this association does not exist in the entire length of their course, but only in the middle portion, being separate at their origin, and separate at their ultimate distribution: that the complex plexuses in the abdomen and pelvis derived their complexity from the mixing and arranging of the fibres of each system, in the due proportion, previous to being distributed to an organ: that the amount of tubular fibres distributed to an organ was in direct proportion to the mental influence we were enabled to exercise over that organ: that those organs over which we could exert but

a small amount of mental influence receive but few tubular fibres, and a large proportion of gelatinous fibres; and that the nerves distributed to the uterus are composed of a large proportion of gelatinous fibre, with a small quantity of tubular fibre; whilst those sent to the bladder and vagina contain a much larger proportion of tubular fibre; and those distributed to the skin and muscles of the perinæum are formed almost entirely of the tubular fibre, with a small amount of the gelatinous fibre.

I also endeavoured to shew, anatomically, that the white cord communicating between the spinal and sympathetic nerves was not a root of the sympathetic nerve, but a branch of the spinal nerve sent inwards to be distributed to the viscera: that this internal branch of the spinal nerve was constituted similarly to other spinal nerves, viz. of tubular fibres derived from the anterior and posterior roots of the spinal nerves in equal proportions: that the grey cord between the spinal and sympathetic nerves is not a root of the sympathetic, but a branch proceeding from the posterior part of the ganglia, and chiefly distributed to the parts in the neighbourhood: that this grey cord is formed in a similar manner to other branches of the sympathetic, viz. of a large proportion of the gelatinous nervous fibre, with a small quantity of the tubular fibre: that the splanchnic nerves are chiefly formed by the union of the internal branches of the superior intercostal nerves, in their course of distribution to the viscera, and, consequently, could not be considered branches of the sympathetic, properly so called: that the splanchnic nerves also contained a portion of gelatinous fibre derived from the thoracic ganglia of the sympathetic, but that these fibres are distinct from the tubular fibres, although associated with them.

These anatomical details were unaccompanied by any physiological deductions, from the feeling that it was better to describe them as facts, unaccompanied by any arguments or theories; as the latter would readily follow if the anatomy was found to be correct. At the same time, the direct tendency of the details in question was to offer evidence of the existence of two distinct systems of nerves, "one composed of gelatinous nervous fibres, having

their origin at the different sympathetic ganglia; the other composed of tubular nervous fibres, which arise in the brain and spinal cord;" each of these systems having their distinct physiological acts, and being subject to their distinct diseases.

From the intimate manner in which these two systems of nerves are associated together in the larger branches sent to the viscera, and from one system, in its ultimate distribution to an organ, becoming separated from the other—i. e. from the gelatinous fibre, previous to its ultimate distribution becoming entirely separated from the tubular fibre; and, further, from the proportions of tubular and gelatinous fibre sent to an organ varying with the psychical influence we are enabled to exercise over that organ,—it is evident that their reciprocal influence upon each other must be considerable: that their separate physiological acts will be very difficult to trace: that the influence which each exerts in any disease must be equally difficult to appreciate: and that these difficulties will be increased by the varying proportion of tubular and gelatinous fibre which the different organs receive. However, it is not my intention to enter fully upon the discussion of these complicated questions at the present time, nor would I now have brought the subject forward, but for the very interesting and remarkable results which have followed the inhaling of ether during parturition, which results appear to admit of a ready explanation by considering the foregoing anatomical details. By means of the ether, the intimate association of these two nervous systems appears, as it were, to be decomposed, and the functions of each to be made manifest; the functions of the tubular or cerebro-spinal systems are placed in complete abeyance, whilst the functions of the gelatinous or sympathetic systems continue without alteration. But, as it would be impossible in this paper to consider this action as applied to the whole of the organs, I will chiefly confine myself to an inquiry into its effects on the uterus.

In this country, perhaps the most generally received opinion of the action of the uterus is, that the contraction of the organ is caused by the reflex function of the spinal cord. It is supposed that the incident or afferent

nerves distributed on the uterus receive an impression which is conveyed to the spinal cord, and that a motor influence is sent from thence along the reflex or efferent nerves to the organ, and causes the contractions; this motor influence being propagated without the consent or knowledge of the individual. In support of this opinion, cases are quoted in which the fœtus was expelled after the respiration of the mother had ceased; and other cases are also brought forward in which the action of the uterus continued unimpaired, although the female was afflicted with paraplegia. M. Olivier mentions an instance of this disease in which the parturition took place "tout à coup," and with so little pain, that the female was only aware of the fact by the subsidence of the tumor in the abdomen, and the cries of the child, which were strong, and the child full grown. M. Brachet mentions another case, in which he says—"I knew a lady who was the mother of three children, and who became paraplegic; the loss of sensation was complete as high as above the pubis; the sensation during coition was lost, yet she became with child for the fourth time. At the end of nine months, parturition appeared to commence, but in so vague a manner that she only suspected it by the date of her pregnancy. The uterus could scarcely be felt to contract when the hand was applied to the abdomen, and there was no pain whatever. By the touch I recognised the same tension of the uterus, the orifice of which was open, and of a remarkable softness: the secretion of mucus was abundant. I left the parturition to nature for 24 hours, yet it did not progress. This lady, who had been very quick in her two last confinements, wished to have this finished, from the feeling that she would not be able to complete it without assistance. By some titillations of the neck of the uterus, I endeavoured to provoke the contractions, but without effect; the soft organ admitted of being so much distended in every direction, that the orifice was completely dilated. The head of the child presented naturally. I pierced the membrane, and the water escaped by the contraction of the uterus; the head descended, and engaged in the superior aperture of the pelvis, from which it did not move. I endeavoured during

two hours to produce a natural parturition by titillations and pinching the uterus, but in vain: the contractions did not come on. With the forceps I succeeded in extracting a full-grown living child: the uterus contracted slowly upon itself. During more than an hour I made frequent frictions (on the abdomen?), but in vain, to produce the expulsion of the placenta, and was obliged to introduce the hand to remove it. It was only with an extreme degree of sluggishness that the uterus gained its ordinary volume."

In remarking upon these two cases, in one of which the action of the uterus was brisk and strong, whilst in the other it is considered slow and feeble, Dr. Marshall Hall says—"I may now ask, how are we to explain the discrepancy between the facts (apparently similar) observed? I think it probable that, as in the case detailed by M. Ollivier, the disease was *above* the origin of the cauda equina; in that of M. Brachet it was seated *below* that origin. In the latter case the cerebral or connecting link between the incident and reflex nerves would be wanting, and the reflex functions would consequently cease!" Now, granting this supposition to be correct, and that in M. Brachet's case the reflex functions had ceased, how, then, are we to explain the action of the uterus? For it continued:—the child was born, the uterus contracted, and the woman did well. Even with this view of the seat of the disease, there must have been some other influence in operation to produce the contractions of the uterus, for the reflex function is supposed to have ceased. To this it may be replied, the influence was small: the action of the uterus was slow, feeble, and imperfect, and incapable of expelling the child; but, although this is assumed, there does not appear to be sufficient evidence that it was so. The lady only suspected she was in labour, from the date of the pregnancy—a most uncertain mode of judging. This, however, was confirmed by the tension of the uterus felt when the hand was applied to the abdomen; also, when examination was made per vaginam, by the orifice of the uterus being open, and by an abundant mucous secretion. Yet every practical accoucheur knows that this condition frequently precedes natural labour in a healthy woman for

some days, and that these symptoms are only evidence of the premonitory stage of labour. And, when we add to this, that, from the wish of the patient, they only waited twenty-six hours for the occurrence of forcing pains, we may fairly question whether they waited long enough, and whether it was not a case which was hurried, in consequence of mistaken data, but which, if left to itself, would have terminated without assistance. There does not appear to be any sufficient evidence to prove that the uterus was unequal to complete the expulsion of the foetus, had they waited the time of many ordinary labours; whilst the absence of hæmorrhage and other untoward symptoms sufficiently shews that contractions did take place.

We may thus reasonably doubt that this case affords any additional facts to the former; viz. that the action of the uterus can take place, and the expulsion of the foetus be effected, without any pain to, or any cognizance of, the mother. Still, it may be argued that this supposition as to the seat of the disease was incorrect, and that, the disease being seated higher in the spinal cord, a small portion of it was healthy, and that the reflex action took place through this healthy portion. However problematical this might appear, there was no satisfactory evidence, until lately, to shew that such reasoning would not apply. In many of the recent cases in which the inhaling of ether has been applied to relieve the pain of operation in midwifery, the whole of the functions of the brain and spinal cord, including also the reflex functions, have been annihilated for a time, and yet the action of the uterus went on as regularly and as vigorously as if all the functions of the nervous systems were in full force: the eye becomes fixed; there is complete insensibility to pain; no reflex actions of the limbs occur; the muscles of the perinæum are in a very flaccid state, and offer no resistance to the birth of the child: in a word, all the most obvious reflex actions are in abeyance, and yet the contractions of the uterus go on unimpaired. Such being the case, we cannot suppose that the reflex actions of the uterus alone continue when all the most obvious reflex actions are annihilated. We must conclude that the action of the uterus

depends on some other influence than that of the spinal cord.

Since the above was written, I have seen the following observations by Professor Paul Dubois, (*Lancet*, March 6th.) "The second question which presents itself for our examination is—can the inhalation of ether suspend the physiological pain attending natural labour? and can it suspend the contractions of the uterus and abdominal muscles?"

These questions are not only of vast experimental and physiological import, but they give rise to practical views, the value of which no one will be tempted to doubt. The physiological point of the question is, to ascertain whether the stupifying action of ether on the cerebro-spinal axis, and the paralysis of the muscular system under the dependence of the latter, will extend or not to the uterine parietes; at this period the question of the uterine innervation is still an unsolved problem. Scientifically speaking, it stands thus;—the uterus receives its nerves, perhaps exclusively, according to Dr. Longet, from the system of the sympathicus maximus nerve, on which, however, the spinal cord may bear certain influences, arising from the communications between the two. Nevertheless, it remains an evident fact, that the uterus is an organ, the contraction of which can neither be suspended, nor in any way modified by volition; and this fact implies that this organ does receive its nerves from the sympathetic system; and if even we admit the latter to be influenced in its action by that of the cerebro-spinal axis, it would probably be found that the origin of that influence is not direct. If these anatomical considerations be true, ether would appear to be called on to act exclusively on the voluntary organs of animal life, and therefore ought not to influence the state of contractions which take place when prompted by organic vitality. I am aware that a distinguished physiologist, M. Brachet, is of a contrary opinion; he thinks the uterus undergoes the direct influence of the spinal cord: he brings forth in support of his views certain experiments on animals, and one morbid case observed in the human species. The experiments consist in vivisections, at divers lengths, of the spinal cord, after which, M. Bra-

chet says, the uterus becomes inert. The pathological fact is one of paraplegia, observed in a pregnant woman. I am not prepared to control the physiological facts; but, for the case of labour in the paralytic woman, it is far from having the value M. Brachet would wish to impart to it, as it is asserted that an application of the forceps became necessary to help labour at a moment when the dilatation of the orifice could allow the operation to be performed without danger. Now, I will only say, that if in the alleged case the orifice was dilated, that dilatation could not have taken place by any cause but from the sole influence of uterine contraction."

Professor Dubois further observes, "I must here subjoin a fact I have commonly observed throughout my researches on the action of ether in those special cases; it is, the extreme apparent laxity induced in the muscular layers of the perinæum. With primiparæ even, dilatation of these parts has been so rapid, that in those cases where parturition took place during the state of insensibility, the duration of which never exceeded fifteen minutes, the expulsion of the child has been painless; and we must note, as worthy of notice, that one of these women bore a child weighing eight pounds, and that in her case the perinæum was not damaged in the slightest degree. I must also make the important remark, that, after delivery, the uterus in all the cases has constantly and immediately resumed the firm contracted state of its retracted parietes."

Professor Simpson remarks, "In obstetric, as in surgical practice, the degree of insensibility produced by etherization and its accompanying phenomena differ much in different instances. In some, a state of total apathy and insensibility seems to be produced; others move about, and complain, more or less loudly, during the uterine contractions, although afterwards, when restricted to a state of common consciousness, they have no recollection of any suffering whatever, or, indeed, of any thing that had occurred during the inhalation and action of the ether; others, again, remain quite aware and conscious of what is going on around them, and watch the recurrence of the uterine contractions, but feel indifferent

to their effects, and not in any degree distressed by their presence; and in another class, again, the attendant suffering is merely more or less distinguished and obtunded, without being perfectly cancelled and annulled." "Yet in all of them the uterine contractions continued as regular in their recurrence and duration as before the inhalation had begun."

From these facts I think we are justified in concluding—1st, that the action of the ether is upon the cerebro-spinal nervous system; 2nd, that the reflex function, in common with the other functions of the cerebro-spinal axis, is in abeyance; 3rd, that the action of the uterus continues unimpaired, and, consequently, 4th, that the action of the uterus must depend upon some other influence than that of the cerebro-spinal system.

As I have already remarked, I have endeavoured, by anatomical details, to show the existence of two distinct systems of nerves,—distinct at their origin,—distinct at their termination, though associated together, in varying proportions, in their tracts between their origin and termination. One of these systems being marked by the tubular nervous fibre,—the cerebro-spinal system; the other being marked by the gelatinous nervous fibre,—the sympathetic system. I have also endeavoured to shew that the latter system furnishes "the chief part of the nerves supplied to this organ." (Philos. Trans., page 230.) These anatomical inquiries, agreeing, in a remarkable manner, with the results of clinical observation and with the cases in which ether has been inhaled, appear to leave no doubt that the uterine nerves are essentially derived from the gelatinous or sympathetic system. The amount of tubular fibres derived from the cerebro-spinal system, which is found in these nerves, sufficiently accounts for the small amount of psychical influence which can be exerted over the organ, for the effect which is produced by mental emotions, and

for the pain which is experienced during parturition. For if we could suppose a part which was exclusively supplied with the gelatinous fibre, then would we be unconscious of any actions which were going on in that part. The tubular fibres being, apparently, the only means by which a knowledge of what is passing in the body is communicated to the mind, so are they likewise the only means by which the feeling of pain is transmitted. Hence, according to the amount of tubular fibre contained in any nerve, so is the organ which it supplies subservient to psychical influence. This constitution of the nerves also explains the action of the ether, which, by paralyzing the cerebro-spinal centres, prevents all perception of pain which might be communicated to them by the tubular nerves, whilst it allows the gelatinous fibres to perform their proper function undisturbed.

The constitution of the uterine nerves being similar to the constitution of the nerves of the kidney, liver, intestines, &c., it has been asked—how is the difference in their functions explained? But I apprehend the difference is more apparent than real. Whilst the functions of the uterus are more liable to disorder than the functions of other organs, still, when performed in a healthy manner, they are as little perceptible to the individual as the functions of the kidneys, or of the intestines; and it is only when disordered that they become objects of attention, but not more so than when either the kidneys or intestines are disordered. Even the pain experienced during parturition is not proportionally greater, i.e., if the relative bulk of the organs and the amount of nervous fibre engaged in the process be considered, than when the kidneys or intestine are attacked with painful affections. Nor does it differ in character from the pain experienced during the passing of a renal or biliary calculus; the pain of each ceasing as soon as the cause producing it is expelled.

Now, whether we appeal to minute anatomy; to physiological experiment; or to clinical observation; we shall, I think, find, that each and all will lead us to the same conclusion; viz., that the different viscera receive their

nervous supply from a system of nerves, which, with the various ganglia from which they take their origin, form a system distinct from, and independent of, the cerebro-spinal system; and that the modifications of function, which are observed in the different viscera, are clearly to be traced to the varying proportions of tubular fibres which they receive associated with the gelatinous fibres. It is right, however, to mention that most of the physiological experiments on the sympathetic system must be taken with great exceptions. They have been chiefly performed on the splanchnic nerves, which are essentially branches of the spinal nerves; on the cord communicating between the ganglia, which is composed of part tubular fibres from the cerebro-spinal system, and part gelatinous fibres from the sympathetic system; or upon the larger ganglia, which are collections of ganglionic corpuscles giving origin to the gelatinous fibre, and through which run tubular fibres from the cerebro-spinal system, which tubular fibres, if irritated, will act in the same manner as spinal nerves. To these variations in the anatomical constitution of parts of the nervous system, as sources of error, must be attributed most of the opposite results which different experimenters have arrived at. In experimenting upon these different parts of the sympathetic, without taking into consideration its compound structure, some have been operating on the tubular fibre, and have obtained results as in experimenting on the spinal nerves; others have been operating on the gelatinous fibre, and have obtained, comparatively, no results; but these diversities are to be explained by reference to the degree of excitability of the different fibres to the stimuli which was applied to them.

I need scarcely remark, in conclusion, that if this be the correct anatomy and physiology of the nervous systems, it will not only greatly modify our knowledge of nervous diseases, but exert a very marked influence over pathology in general.

53, Upper Mary-le-bone-street,
Portland-place.

CASE OF STRANGULATED HERNIA IN THE ADULT,

WITH OBSCURE SYMPTOMS.

By GEORGE HARVEY, Esq., Surgeon,
Castle Heddingham, Essex.

On Monday, the 26th ult., I was summoned to attend J. C., an agricultural labourer, aged 40; but being from home, and not expected to return before night, a neighbouring surgeon was applied to, whose assistant, finding the man complaining of having injured one of his testicles by a fall with a weight on his shoulders, ordered him a cold lotion to the part, and some aperient medicine. About the middle of the following day I visited him; the lotion, he said, had relieved him, but the medicine had not operated. On examination, I found the right side of the scrotum distended, not very tender, and having somewhat the appearance of a hydrocele; but he assured me it was not enlarged previous to his fall. I could distinctly feel the spermatic cord as it passed through the abdominal ring, and with it a portion of intestine, but it was neither tense nor tender. The act of coughing produced the usual impulse communicated to hernial swellings, but this impulse was not perceptible in the lower and larger portion of the tumor, which evidently contained a fluid, through which the light of a candle was dimly transmitted. He has been several times sick, but the bowels were freely evacuated a few hours before the accident.

I endeavoured to return the protrusion at the upper part of the scrotum; but, although the opening in the obliquus externus was large enough to admit the point of my finger, I could not succeed. He informs me that he has had a small rupture for some years, which always returned very readily on his lying down; that he used to wear a truss, but lately left it off. The symptoms not being urgent, I enjoined quiet in bed, ordered an enema and some saline medicine, and the lotion to be continued.

April 28th.—Some increase of the swelling, with tenderness, extending to the abdomen; no stool; has vomited

very frequently dark but not feculent matter; hiccough very troublesome; the impulse, on coughing, very evident at the upper, but not communicated to the lower part of the swelling. All attempts to return the protrusion proving fruitless, I determined to operate, Mr. Sinclair, of Halsted, kindly affording me his assistance. He was first bled nearly to fainting, and the taxis once more tried, but without avail. After cutting through the integuments, and carefully dividing the sac, I readily passed my finger through the abdominal ring: there was no stricture, but still I could not return the protruded intestine, which was firmly fixed below. On passing my finger downwards, I found a very firm band about midway between the abdominal ring and the testis, tightly binding down the protruded intestine. With some difficulty I insinuated the extreme point of my finger, and by the side of it a director, fairly underneath this band, which I divided with a probe-pointed bistoury, giving vent to a considerable quantity of fluid, and releasing a strangulated portion of intestine lying in close contact with the testicle, but not adhering to it. The intestine was dark-coloured and sharply marked where the stricture had embraced it, but had not lost its vitality. On being liberated, it immediately protruded through the wound, drawing an additional quantity through the abdominal ring. After a little time, by gentle pressure, I succeeded in returning the whole, stitched up the integuments, and applied a few strips of adhesive plaster, a compress, and roller. A few drops of Tinct. Opii were ordered, perfect quiet enjoined, with tea and gruel only. We left him very comfortable and very grateful.

29th.—Has suffered no pain, sickness, or hiccough; passed several dark and offensive motions; slight tenderness of the abdomen; tongue moist and clean; pulse natural. He now informs me that from a child he had remarked that the right testicle was larger than the left, but, as it caused no pain, he paid little attention to it.—Diet as before. No medicine.

May 3d.—Removed the sutures; wound entirely united by the first intention, but covered with adhesive plaster, compress, and bandage, for

security.—Ordered to sit up, and resume his usual diet (bread and cheese, with a little beer), as he fancied the gruel relaxed his bowels.

8th.—Quite well. Bowels rather relaxed, and he feels weak.—Ordered a draught of Infus. Gentian. Comp. twice a day; to walk out, but on no account to leave off his bandage. After a few weeks, to have a truss.

REMARKS.—That an operation was absolutely necessary in this case, is clearly proved by the failure of the usual means of reduction, and the unequivocal symptoms of strangulated intestine. It is also equally manifest that no correct diagnosis could be formed before the operation was undertaken; but afterwards every circumstance was rendered perfectly clear, and easily to be explained. The man had, from early infancy, probably from birth, been affected with congenital hernia, but this being small, it merely kept the mouth of that sac open which ought to have closed when the testicle descended into the scrotum. Without causing any uneasiness, it seems to have remained much in the same state till his fortieth year, when, falling with a burden on his shoulder, a fresh portion of intestine descended much lower into the sac. The free circulation of blood through the veins of this fresh portion of intestine being interrupted, it could not return by the narrow passage through which it had descended. The same cause which prevented the return of venous blood from the intestine prevented also the due absorption of the fluid which naturally lubricates the inner surface of the tunica vaginalis testis: thus producing, in addition to the hernia, that collection of fluid which gave it the appearance of a true hydrocele. The stricture being situated midway between the abdominal ring and the testicle, and in that canal which should have been closed on the descent of the testicle, satisfactorily explains why the impulse produced by coughing could not be felt at the inferior part of the tumor. It also explains why I could so easily distinguish both the intestine and the spermatic cord as they passed through the abdominal ring.

MEDICAL GAZETTE.

FRIDAY, JUNE 11, 1847.

WE do not know that we can better renew our remarks on the Bona Vista fever than by quoting the following extract from a letter addressed by Sir William Burnett to the Secretary of the Admiralty, about the time of the arrival of that ill-fated vessel off the shores of England:—

"It appears to me that the present is the occasion which ought not to be neglected, in which the infectious or non-infectious nature of the disease in question may be brought to a *complete test, and finally settled*. It is perfectly well known that the communication between the inhabitants of Boa Vista and both the "Eclair" and "Growler" was entirely unrestricted,—indeed so much so that the late Commander Estcourt and the purser resided in the town. In short, the parties mentioned visited and mixed together freely.

"If it can be *fully and satisfactorily shown that any person who had so visited the ship or tents where the sick were placed, contracted the fever in question and communicated it to others, and they to other persons in succession who had never visited the ships or sick*, then there can be no reason to doubt the infectious nature of the disease; but if nothing of this kind has taken place, then the conclusion must be that the disease is not infectious, and is therefore incapable of being communicated: in either case settling this long-contested question."

From this extract it will be perceived, that the Director-General of the Medical Department of the Navy is quite willing to submit his view of the question to the result of a carefully conducted inquiry; and when a gentleman whose opinions were known to be adverse to the doctrine of infection, was selected for the purpose of receiving the evidence, we think it is impossible with any fairness to throw a

doubt upon the facts which he has here collected and arranged. The test which, in 1845, the Director-General proposed to apply in order to determine the infectious or non-infectious character of this fever, has been applied by one who, like himself, was disposed to deny the existence of infection; and unless the facts be disputed, we do not see how it is possible to escape from the conclusion, that the question regarding the infectious nature of this fever has at length been "finally settled" in the affirmative.

As the valuable report of Dr. M'William is not likely to fall into the hands of the greater number of the readers of this journal, and the facts contained in it have a more important and conclusive bearing on contagion and quarantine than any which have transpired of late years, we propose to make such extracts from it as may be necessary to elucidate the intricate questions connected with these subjects. We are desirous, too, so far as our space will permit, to present the statements in the words of the reporter, in order that we may not, by paraphrasing the evidence, lay ourselves open to the charge of misinterpreting the facts.

With the events that transpired previous to the arrival of the Eclair at Bona Vista, we do not at present concern ourselves. That this vessel had on board a fever of a very fatal description, and that during her passage from the coast of Africa to this island, she lost many of her crew, are facts which cannot admit of dispute. Only one circumstance need here be put on record, as it furnishes some negative evidence in reference to the question at issue. We are informed by Dr. M'William, that on her way to Bona Vista, the Eclair called at the island of Goree, to deliver dispatches and obtain coals: but the Government there did not consider it proper under

the circumstances of her sickly condition, to permit intercourse with the shore. The launches containing the coals were towed by the Goree people to within a short distance of the Eclair, and were then picked up by her crew.* This fact is of some importance; because it proves that under the same climatic influences, an island which had no communication with the vessel, entirely escaped the fever. As our readers are already aware, this precaution was not adopted at Bona Vista. An English surgeon, who was subsequently cut off by the disease, having certified after visiting the sick in the Eclair, that it was nothing more than the common endemic fever of the African coast, which was not of a contagious or infectious nature, the authorities of Bona Vista without further hesitation at once granted the vessel free intercourse with the shore. A fort on a small island, about half a mile distant from Porto Sal Rey, the chief town, was assigned by the Governor for the use of the sick, who were all landed there on the 31st of August. About forty men from Bona Vista were employed in clearing out the Eclair, and about the same number from different parts of the island, acted as labourers on the small island and in the boats.

"The coal-heap labourers as well as the launch-men mixed freely on the island with those of the "Eclair's" people who were not on the sick list; but it does not appear that any of them (with the exception of a slave who afterwards died) visited the rooms where the sick were lying. Some of them, indeed, went to procure water from a tent near the gate of the Fort, but they never went where the sick were. Dr. Almeida, from Porto Sal Rey, visited the sick once, as did also Mr. Kenny (the surgeon) more than once, indeed frequently. A native called José Pedro occasionally brought supplies from the country to the crew,

and he was very strongly suspected of having smuggled spirits into the Fort. John Jamieson, the Consul's storekeeper, who superintended the launches on shore, and the soldiers of the guard, were the only persons belonging to the island who had daily intercourse with the sick crew. It cannot, therefore, be said that there was much direct intercourse between the people of Boa Vista and the sick at the fort. The boats that were from time to time sent by the British Consul with supplies from the island were equally careful with the labourers not to enter the fort; indeed, it was for some time in vain that the Consul endeavoured to procure labourers for the "Eclair," such was their dread of the disease with which her crew were affected.

"It has been already mentioned that the soiled linen brought from the vessel on her first arrival was given out to be washed by the washerwomen of the town. Of these there were not less than seventeen employed washing the linen; and all of them, with the exception of an old negress, were attacked with fever, of which four died. I have examined the whole of the survivors, and have found that two were attacked late in October, five in November, two in December, three in January, and one not until some time in February. None of the deaths took place until fever was general in Porto Sal Rey. So that in none of these cases can the occurrence of the fever be fairly attributed to infectious matter conveyed by the linen.

"The house in which the officers lived is situated close to the sea shore in that part of the town of Porto Sal Rey called Santa Barbara; they and their servants were daily in various parts of the town. The purser was for some days in the house of Mr. Kenny, the surgeon, and while there was affected with a nervous disorder. Some of the other officers, the captain's cook, and some other servants, were taken ill at the house in Santa Barbara; but they as well as the purser were (in accordance with a stringent rule laid down by Captain Estcourt) sent to the fort as soon as they were attacked. Leave was given during the early part of the stay of the "Eclair" at Boa Vista, to the petty officers and a few of the sailors; and a man called Smith

stopped in the town two nights. The seamen seemed to have resorted chiefly to the house of a man called Justinian da Silva Georgio, who keeps a spirit-store in Porto Sal Rey. It is remarkable that this man was attacked with headache and general fever on the evening of the day he was visited by the "Eclair's" people; he was attended by Dr. Almeida, and seen by many of his friends during his illness, which lasted a fortnight: amongst the latter were two females, called Anna Gaspar and Rosinha San Antao, both of whom had slight fever shortly afterwards. It is but necessary to mention that both these women had been visited by people from the "Eclair;" they soon recovered, and their illness at the time attracted no notice whatever.

"The last, and perhaps in the present inquiry the most important of all the parties connected with the "Eclair" at Boa Vista, was the military guard stationed in the fort during and immediately after its occupancy by the crew of that vessel. When the crew took possession of the fort they found a guard of three soldiers there. They had been on this post already three or four days. Their names were—Athanasio Perez, acting corporal, dark mulatto, aged 26 years; Pedro Manoel, private, negro, aged 30; Antonio dos Santos, private, mulatto, aged 25. This guard slept in front of the upper room occupied by the sick, and often went into it. The corporal had a headache two days after the sick were landed, which at first yielded to cooling fomentations. In two days more he and his comrades were relieved, and he was still rather unwell, but making no complaint was posted as a sentry at the barracks in Porto Sal Rey. He was, however, soon taken ill, and sent to his house in Pao de Varella, where he was confined some weeks. His case caused no alarm, nor was he attended by any medical man further than being seen once by Dr. Almeida during his convalescence. The other two soldiers had also attacks of fever, the one three weeks or so after he left the fort, and the other not until fever was general in the barracks.

"The second guard at the fort consisted of Vicente da Cruz Silva, dark mulatto native, aged 29; Manoel Antonio Alves, negro native, private, aged 18; Luis Briza, European Portuguese,

private, aged 18. The guard was on duty at the fort six or seven days; none of them were at all affected during this time. They, however, all had fever afterwards, when the disease was prevalent in the town, of which Luis Briza, the European, died.

"Third guard. In the routine of duty the second guard was relieved by Corporal Joaquim Agostinho, European Portuguese; private Joao Alexandre Roque, European Portuguese; and private Miguel Barbosa, native negro, aged 30. By the evidence of Miguel Barbosa, the only survivor of this guard, it appears that he and his comrades were at the fort several days both before and after its evacuation by the sick of the "Eclair." They slept in a small cook-house under the rampart. The same day the "Eclair" left, Miguel was ordered by the corporal Agostinho to sweep out the rooms which had been occupied by the sick, and that all three of them went into the rooms on this occasion. According to his account, on the day after the steamer sailed, the corporal was attacked with fever, and died in three days, delirious, and vomiting a black fluid. The other European, Joao Alexandre Roque, was similarly seized on the day following, and died on the fourth day with fever, delirium, and black vomit. Both these men were seen by Dr. Almeida, who told me they were in *articulo mortis* when he was called to them.

"Pedro Manoel, a native negro soldier, was sent by Major Mascarenhas, the military commandant, to attend the sick soldiers at the fort; he was with them from an early period of their illness up to the time of their death, and remained at the fort for several days afterwards, in company with Miguel Barbosa. Before they left the fort, some gunpowder was exploded in the rooms which the "Eclair's" people had occupied; and it is said that they were white-washed some time afterwards. Another negro soldier, called Manoel Antonio Alves, who was on duty with the second guard, was ordered by the Commandant to bury the bodies of Agostinho and Roque. For this purpose he proceeded to the small island accompanied by Joaquim Fereira and Manoel Luis, both native soldiers. He left his comrades in the boat, and

stripping himself, ran up to the fort in a state of nudity, and there, with the assistance of Miguel Barbosa and Pedro Manoel, rolled the bodies in quilts, and carried them down to the boat, which transported them to the beach, about a mile and a half to the southward of the town, where they were buried in the sand.

"The fourth guard was constituted of this man (Manoel Antonio Alves), Lorenzo Samed, and Pedro Gonzalves, all native soldiers. The same boat that conveyed them to the fort, on its return brought Miguel Barbosa and Pedro Manoel to Porto Sal Rey. The Commandant, however, deemed it advisable not to admit them at once into the barracks, but sent them to a house in the upper and northern end of the town called Beira, which is a part of the district Pao de Varella. The soldiers of the fourth guard lived in a room next to that in which the sick of the "Eclair" had been. Manoel Antonio Alves was taken ill in the course of two days, and, strange to say, was at once conveyed to the barracks in Porto Sal Rey. Pedro Gonzalves and Lorenzo Samed were in their turn, in the course of ten or twelve days, relieved from duty at the fort. Gonzalves was taken ill with fever some days after he returned to the barracks, and died on the 26th November. Lorenzo Samed was also attacked, and recovered after a dangerous illness.

"The fifth guard at the fort, Andre Vass and Jose Sancha, two negro private soldiers, were sent to the fort to replace the fourth guard. Jose Sancha was attacked with fever three days after he had been there; upon which the Commandant resolved for a while to withdraw the guard altogether from that fatal post. Both the soldiers, therefore, returned to the barracks, where Vass was also taken ill in the course of three days.

Such are the facts connected with the intercourse of the inhabitants of Bona Vista with the crew of the Eclair. We must reserve, until our next number, an account of the appearance of the fever at Porto Sal Rey and in different parts of the island, as well as of the great mortality which attended its progress.

It is with regret we find, by the accounts received from various provincial towns, that typhus fever, in an aggravated form, is on the increase; and that in almost all cases it may be traced to the immigration of Irish paupers labouring under the disease. In our last number, we had occasion to publish accounts of its diffusion among the pauper populations of Glasgow and Liverpool: we this week publish other accounts relating to its appearance in Leeds and Bristol; and in both instances it is referable to the same source,—Irish immigration. It is worthy of note, too, that the deaths from typhus have increased in the metropolitan districts; they are already more than thirty-three per cent. above the weekly spring average! In the absence of a Health of Towns' Act, the authorities in some provincial districts, are endeavouring to remove nuisances and other evils which add to the virulence of contagion. It would appear, however, by the report from Bristol, that the Government has not efficiently exerted itself to prevent the continued importation of pestilence. The evil has not been attacked at its source: a wholesale influx of diseased paupers is permitted to take place, and the health of the town-population is then, it appears, to be improved by act of Parliament! Provincial towns are, by reason of defective drainage and sewerage, already sufficiently in need of protection against the extension of epidemic and infectious diseases among their own pauper populations. The fact that the Government is attempting, at a very late period of the session, to procure an enactment for improving their sanitary condition, is a proof that we are not overstating the circumstances; and it therefore appears to us an inexplicable inconsistency that this immigration of dis-

ceased paupers is allowed to continue. Defective draining is in itself very bad, but its influence upon health is only likely to become aggravated by the unrestricted importation of fever in an aggravated form. Without a sanitary measure the health of the town populations is seriously endangered; and even were such a measure in force, we are at a loss to know why one part of the United Kingdom should be permitted to relieve itself of its own disease and pauperism by transferring them to another.

The accounts from Ireland respecting the progress of fever are still very unsatisfactory; according to the *Times*

"There were on the 2d of June, when the last official accounts were made up, 928 cases of fever in the hospitals and other temporary places of accommodation for patients in the city and suburbs of Cork. In addition to this fearful amount of disease, hundreds had been refused admission for want of room. In Belfast, with a population one-third less than that of Cork, it is stated that there are 1,000 persons lying ill of fever. Dublin is still comparatively free from sickness; at least there is not more than is usual at this season of the year; and, to do the authorities justice, every sanitary measure has been adopted, calculated to protect the inhabitants from the effects of the prevailing contagion. By a proclamation of the Lord Mayor the streets have been nearly cleared of the hordes of strolling paupers from the rural districts, who are sent back to their respective parishes, where they are entitled to relief under the recent temporary act of Parliament."

We understand that typhus fever is rapidly spreading in Cavan, Belfast, Monaghan, Sligo, and, generally, through North Tipperary, and that the mortality in all these places is very great.

A CASE of some interest to the profession came before the Court of Common Pleas on Monday last. We allude to that of *Young v. Giger*. The plaintiff,

a general practitioner and a licentiate of the Society of Apothecaries, residing in Piccadilly, brought an action against the defendant to recover the amount of his bill for medicines. The case was tried at the last sittings in Middlesex, before Mr. Justice Williams, and a verdict was found for the plaintiff, damages £14. 10s., leave being reserved to enter a nonsuit.

On Monday last, Mr. Parry moved the court to set aside the verdict, and to nonsuit the plaintiff. On the part of the defendant, he contended that the plaintiff was bound to show a certificate from the Apothecaries' Society to entitle him to recover. At the trial he did produce such a certificate, which was in the ordinary form; but by it the examiners certified that the plaintiff was qualified to practise as an apothecary in England and Wales, "except in the city of London and suburbs, or within ten miles thereof;" and upon this certificate the defendant contended the plaintiff had not made out his case, as he was within the exception. The question as to the right to grant this form of certificate, for which a lower sum was paid, rested on the construction put upon the Apothecaries' Act (the 55th Geo. III. chap. 194, sec. 19.)

A rule *nisi* was granted, and the case will therefore come on again for argument.

We pass over, for the present, the extreme shabbiness of the defence; but we cannot avoid remarking that general practitioners, who practise in London, are bound to take out a London license. We have reason to believe that many are now practising as apothecaries in the metropolis with a country license, because the cost of the certificate happens to be less; but this case will show them that they cannot do so without incurring the risk of losing their privileges. It is, of course, impossible to anticipate the judgment of the Court on the question, — whether an apothecary, practising in London upon a country license, can or cannot recover the

amount of his charges for medicines : but we have no hesitation in stating our opinion that such a question should never have come before the Court at all. The saving of four guineas in the cost of a certificate, is no compensation for the risk of having it pronounced a useless document, or of having a plain equitable right defeated upon a mere legal technicality.

Abstrus.

A Manual of the Principles and Practice of Ophthalmic Medicine and Surgery. By T. WHARTON JONES, F.R.S., &c. 12mo. pp. 570. Churchill, London, 1847.

THE enormous accumulation of medical writings, if not the rapid increase of medical knowledge, has long been threatening to oppose a most formidable barrier to the student's acquirement of what are now termed the "elements" of his profession. Not more than fifty years have elapsed since a teacher would undertake to instruct his professional alumni in the entire art and mystery of anatomy and surgery in a brief but learned course of some fifteen or twenty lectures, upon a principle, we suppose, very similar to that by which painting in oil colours is now satisfactorily taught in three lessons of one hour each. Then, a very slender text-book of anatomy, with Mr. Benjamin Bell's two widely-printed octavos on the Theory and Practice of Surgery, were regarded as sufficient accompaniments to the course, and very considerable indeed was deemed the erudition of him who fully succeeded in mastering their contents. Now, however, he who would aspire to the rank of surgeon is compelled to attend, at the very least, two courses on surgery, of about one hundred and fifty lectures each, every course being, notwithstanding the advance of science, most scrupulously a verbatim repetition of that which preceded it, and a literal anticipation of that which is to follow ! Anatomy, also, must be studied in six distinct courses of lectures, of

six months each ; but it is considered that the impression made by these verbal instructions, ponderous and reiterated as they may be, is, at most, slight and fugitive, and the student is imperatively recommended to study a few elementary works on the subject in question, before attempting to enter upon the practical investigation of disease. Now elementary works on surgery and anatomy are, as their designation would imply, mere outlines of the subjects in question, mere guides and hints to the student in pursuing his investigations of the vast sciences which he is destined to cultivate ; but still these mere sketchy affairs are, in reality, vastly more formidable in size and weight than their aim and pretensions might, at the first thought, lead the student who is fated to peruse them to anticipate. A "hand-book," "vademecum," "text-book," or "elements" of anatomy or surgery, now generally contains from five to fifteen hundred closely printed pages, and its weight, (not moral but physical) usually averages from two to five pounds avoirdupois. These works, however, as we have stated, merely profess to give an insight into the general facts of the science, not having sufficient space to enter upon the particular details of the various subjects of which that science is composed. Hence the perusal of another sub-class of "hand-books," "elements," &c. is called for, and each of these is found to have become extended, by a kind of literary hypertrophy, into a size which equals, if it does not exceed, that of the parent science, of which it is an offset ; and even these branches of the art have their secondary and tertiary ramifications. Thus he who would acquire a knowledge of anatomy, must first study certain voluminous works on anatomy in general ; he must then gain an intimate acquaintance with one or two almost equally bulky treatises on special anatomy, the evident imperfections of which will compel him to master a third set of elaborate tomes, each of which is devoted to the anatomy of a single organ, as the brain, the spinal cord, the mammæ, or the thymus gland. So also with surgery ; it will not be sufficient for the acolyte to have studied and acquired all that has been recorded in the voluminous compilations of Celsus and Cooper ; he must also dive

further into an almost infinite variety of treatises on hernia, fractures, injuries to the head, diseases of the teeth, ear, testicle, joints, eye, *cum multis aliis*. Now what we have to complain of here is—not that the medical sciences have been rendered too elaborate, but that they have been extremely and most injuriously over-written; the injury falling, not upon the profession at large, who are at liberty to spend as much or as little time and money as they please in the purchase and study of medical works, but upon the unfortunate student, who is compelled, however much his reason and his means may contra-indicate such a course, both to buy and to read. It is not our intention to apply the above observations harshly to the highly meritorious work by Mr. T. Wharton Jones, which now lies before us, but we must admit that they were recalled to our mind upon observing that Mr. Jones's Manual on Ophthalmic Surgery very nearly equals in size the Manual on Practical Surgery recently published by Professor Fergusson; and upon reflecting that, after the student has made himself fully acquainted with the contents of this work, together with those of either Mackenzie's, Lawrence's, or Tyrrell's treatise, he will have gone through a course of reading nearly twice as extended as would have been required in the study of a complete work on surgery thirty or forty years ago.

Mr. Jones's manual affords a very useful outline of the pathology and treatment of diseases of the eye. And we can assure those students who consider that they require a handbook on this subject, that they cannot meet with one that is more ably or more carefully written. Still this volume, large as it is, only contains a condensed outline of the subjects it discusses, and the axiomatic facts of Mr. Jones merely afford the heads of that knowledge which the really accomplished ophthalmologist must possess. The following observations on the nature of common *muscæ volitantes* will afford a good specimen of the general character of the work:—

"Hitherto, a very common opinion as to the nature of floating *muscæ* has been, that they are subjective sensations, depending on some intrinsic change of state of the optic nervous apparatus, thus confounding them

with fixed *muscæ*; but that they are truly objective sensations, occasioned by particles in the interior of the eye, but extrinsic and in front of the retina, throwing their diffracted shadows on the retina, admits of mathematical demonstration. But without entering minutely into the matter, the proposition may be easily demonstrated thus:—Hold between a convex lens and the white surface on which the light falls, some small object, as a pin. When this is near the lens, its shadow is not seen on the white ground, but, when it is brought nearer and nearer to the white surface, its shadow appears more and more distinctly. The particles, however, appear to be of normal occurrence in the eye, for the appearance of floating *muscæ* may in general be seen by any person by simply looking through a small aperture in a card at the clear sky, or through the eyeglass of a compound microscope at the flame of a candle two or three feet distant, or simply by bringing the eyelids towards each other, and looking at a lighted candle.

On contemplating the spectra thus brought into view, viz. the bearded filaments, the distinct and indistinctly defined globules, and the watery-like filaments, called by Dr. Mackenzie respectively the *pearly spectrum*, the *distinct insulo-globular spectrum*, and the *watery spectrum*, it is observed that they are situated in different places, one behind the other, 'that they never mingle with one another so as to change the order in which they stand before the eye; but the pearly spectrum always appears the nearest, then the sharply-defined insulo-globular, then the obscurely-defined globules, and farthest away the watery threads.'

"*Seat of the particles, the presence of which occasions muscæ volitantes.*—This admits of being mathematically demonstrated in front of the retina, in or behind the vitreous body, but, at the same time, it appears that it is different for the different kinds, being very near the retina for the pearly spectrum, and furthest from the retina for the watery spectrum.

"*Nature of the particles, the presence of which occasions floating muscæ.*—This has not been with certainty determined. In the vitreous humour (as also in the aqueous) there is contained a great number of corpuscles, most of them resembling lymph-corpuscles, though smaller, being between 1-4000th and 1-5000th of an inch in diameter; but it appears from the calculations of Brewster, Mackenzie, and Raete, that the size of the particles, the presence of which occasions floating *muscæ*, is much greater than this. The corpuscles demonstrable in the vitreous humour are lighter than the fluid itself; in this respect agreeing with the vitreous humour, which occasions *muscæ volitantes*, the latter, as appears from their

movements, being lighter than the fluid in which they are suspended.

"*Musæ volitantes* are often seen by persons without any particular notice being taken of them, as they are indistinct, present themselves occasionally only, and are therefore not troublesome. They are seen most distinctly, and are therefore most troublesome, when there exists an irritable state of the retina, with weakened irradiation. Such a state of the retina may therefore be viewed as the condition on which floating *musæ* considered as a disease depend. Detection of the images of external objects favours, distinctness on the contrary prevents, the perception of *musæ*. Hence, when the person is short or farsighted, they appear less evident to him when he uses the glasses fitted to render his vision distinct. This appears to be owing to the stronger impression of the external objects making up for the weakened irradiation, so that the weak impression of the objects of the *musæ* is more readily effaced. The pupil of an eye affected with *musæ volitantes* is generally contracted, even when the eye is myopic.

"*Exciting causes*.—Over-use of the eyes on minute objects. Inflammatory diseases of the eyes, external as well as internal. The seeking for them" [the *musæ*, not the eyes] "in experiments. Intemperance. Febrile diseases. Influenza. Disease of the heart. Want of sleep. Dyspepsia. Abdominal congestion. Hysteria. Hypochondriasis. Morbid sensibility of the system generally, arising from pressure of business. All these causes appear to operate in the same manner, occasioning a congested state of the eyes, and weakened irradiation of the retina. When a hypochondriacal person once detects *musæ volitantes*, he takes such frequent notice of them that they become to him more and more troublesome.

"*Prognosis*.—Though floating *musæ* may occur along with incipient cataract or amaurosis, they have no connexion with either of these complaints. Their occurrence, therefore, is of itself no indication that either cataract or amaurosis is taking place. If, however, there be along with the appearance of *musæ*, a failure of vision, and if that failure be not attributable to myopia or presbyopia, which may be ascertained by a concave or a convex glass not improving vision, then cataract or amaurotic amblyopia may possibly exist. In uncomplicated cases the *musæ* may indeed increase in numbers, but very slowly, and never to such an extent as to interfere with the distinctness of vision in any very troublesome degree. But sometimes the *musæ* remain stationary, or even become less.

"As they depend on the vision of objects naturally existing in the eye, in consequence of a morbid sensibility of the retina, whatever tends to promote or relieve this will have the effect of promoting of relieving the *musæ*.

"*Treatment*.—The removal or abatement of the exciting cause, if it can be detected, is the first thing to be looked to. Rest to the eyes, if they have been overstrained, relaxation from business, quiet to the mind. When the stomach and liver are out of order, mercurial alteratives, followed by tonics, regulated exercise, and change of air. Cold applications to the eyes, such as the cold douche bath twice or thrice daily for five or ten minutes, is the most important local application," (p. 34-35).

If proof were required to show that the subject of diseases of the eye has been considerably overwritten, it might be found in the glossary of absurdly pedantic "ophthalmological" terms which is appended to this work. It would seem as though a large proportion of the writers on ophthalmic diseases, having utterly failed to make any novel or useful observation either in the pathology or treatment of these maladies, had undertaken the task of finding out new names for all the lesions; and, upon the strength of that achievement, had plumed themselves as discoverers. The reputation of Mr. Jones is well known to rest upon a far higher basis than this, and he is, of course, not to blame for affording to his readers the plain English of these sesquipedalian Greek compounds; but we are confident that he will join with us in wishing that such terms as *amphiblestroiditis*, *anchoyloblepharon*, and *blepharoblenorrhœa*, may very shortly be driven in contempt from the surgical vocabulary, as savouring very strongly of that empirical period when the leading art of leechcraft was to confound the weak minds of the ignorant with a high-sounding jargon of unintelligible terms.

We attach considerable value to Mr. T. Wharton Jones's Manual, and can recommend it as a safe guide to all those who are desirous to obtain a clear and practical outline of ophthalmic medicine and surgery.

Proceedings of Societies.

ROYAL SOCIETY.

June 3, 1847.

The MARQUIS OF NORTHAMPTON, President, in the Chair.

A PAPER was read, entitled

On a Function of the Red Corpuscles of the Blood, and on the Process of Arterialization. By GEORGE OWEN REES, M.D. F.R.S. &c.

The author states that he was first led to the new theory he has formed for the explanation of the chemical phenomena of respiration, and more especially of the change in the colour of the blood which occurs in that process, by having observed that a garlic odour, similar to that evolved from phosphorus, was produced by agitating in distilled water the clot obtained from some specimens of venous blood. His attention was consequently directed to the investigation of the state in which the phosphorus exists in the blood; and the result of this investigation was the theory, of which the following is a succinct outline.

The venous corpuscles are known to contain fat in combination with phosphorus. This compound ingredient of the corpuscles, on coming into contact with atmospheric oxygen during the respiratory act, is consumed, and combining with that oxygen, forms the carbonic acid and water which are expired, and also phosphoric acid, which, uniting with the alkali of the liquor sanguinis, forms a tribasic phosphate of soda. This salt, like many others, acts upon hæmotosine in such a manner as to produce the well-known bright arterial tint.

The analyses which the author has performed in order to test the correctness of this theory were made upon the blood, both of the veins and of the arteries, of the same animal; and also upon separated portions of the same venous blood; one of which portions had been artificially arterialized by having been brought into contact with air, while the other portion had not been so exposed. These comparative experiments showed that arterial blood, both when obtained from the vessels and when artificially produced, contains in its serum a larger proportion of tribasic phosphate of soda than that obtained from the veins. The venous corpuscles, as they are contained in the clot, yield a fatty matter combined with phosphorus; while those from arterial blood yield a fat, the ashes of which manifest an alkaline reaction. Thus the venous corpuscles are shown to be acted upon both by respiration and by the artificial arterializa-

tion of the blood, in such a manner as to lead to the formation of tribasic phosphate of soda at the expense of the phosphorus they contain.

No exact quantitative analyses were attempted by the author, the comparative experiments having been performed on small portions only of serum (from 25 to 40 grains); sufficiently large, however, to furnish satisfactory evidence of the actual presence of the phosphate in arterial blood, and also in those portions of venous blood which had been arterialized out of the body; while no such indications were obtained from similar portions of the blood contained in the veins.

At the conclusion of the paper, the author notices the experiments of Enderlin, in which no alkaline carbonate could be detected in the ashes of blood; and shows that this is the natural consequence of the phosphates of the clot being oxidized during combustion, and thus supplying a quantity of phosphoric acid sufficient to decompose completely the alkaline carbonate produced by the incineration of the lactate and albuminate of the serum. Most specimens of serum, even as obtained from arterial blood, yield an alkaline carbonate when incinerated; and this is always the case with the serum of venous blood. The author, therefore, thinks himself warranted in regarding the conclusion founded on Enderlin's experiments, that the blood contains no lactate, as being erroneous.

ROYAL COLLEGE OF CHEMISTRY.

THE Annual General Meeting of the supporters of this Institution was held at the College, in Hanover Square, on Monday last: BENJAMIN BOND CABELL, Esq. M.P., the Treasurer, in the Chair.

The report of the Council announced the full completion of the Laboratories, the first stone of which was laid by his Royal Highness Prince Albert in June last. In the erection and fitting of these buildings a debt has been incurred of £2500; but, as it was considered absolutely necessary to the existence of the College that they should be erected without delay, the Council felt no hesitation in incurring this liability, as they looked with entire confidence to the members for their co-operation and assistance in defraying the debt. The report stated that the facilities afforded in the College for chemical education in its most extended form had been eagerly sought for, and embraced with enthusiasm, by the students, the number of whom entered for the present session was 38, making a total of 147 since the opening of the College.

The report of the Professor, Dr. Hofmann, afforded some very interesting details

of the progress of the School. Among the investigations already completed, and still in progress, it referred to a very accurate analysis of the thermal water of Bath, by Messrs. Merck and Galloway; an elaborate investigation of the mineral constituents of the different parts of the orange tree, by Messrs. Rowney and How; and an analysis of Bohemian glass, by Mr. Rowney.

Among those investigations which, at this moment, have a more purely scientific interest, the report mentioned some experiments of Mr. Nicholson, which had established the composition of caffeine—the active principle of tea and coffee, and which had been the subject of discrepancy among chemists. The report stated that Messrs. Noad, Field, and Abel, had been engaged in researches upon a series of substances arising in a variety of ways from oil of camiseed,—investigations which had been crowned by results worthy the zeal and true love of science with which those gentlemen had pursued their studies. The report also referred to an investigation of the neutral oil of coal-gas naphtha, undertaken by Mr. Mansfield, showing that this research in particular afforded an illustration how investigations, undertaken from a purely scientific point of view, may lead to results which promise to become of highly practical utility. Mr. Mansfield had found that the remarkable substance known by the name of benzol, which was first obtained in limited quantity from the liquid of compressed oil-gas by Professor Faraday, may be prepared with great facility, and in large quantities, from coal-gas naphtha; and there was no doubt that this oil, the boiling point of which is scarcely higher than that of alcohol, would be found useful as a solvent in a great number of cases in which hitherto we have been obliged to employ alcohol.

The report having been adopted, it was announced that a member of the College had invested the sum of £1000 to be given to any student of the Royal College of Chemistry who, during the ensuing five years, should discover a method of preventing iron from rusting; and, if not discovered within that period, to be given in sums of not less than £50 each for any other important discoveries.

The Vice-Presidents, Treasurer, Auditors, and Council for the year ensuing were then elected, and after the usual vote of thanks, the meeting broke up.

Correspondence.

ON EXPECTORATED COAGULABLE LYMPH.

SIR,—In your number of May 7th, (which, for want of leisure, I have not perused till to-day,) at page 825, there is a drawing of the microscopic appearance of some “mem-

branous casts of air tubes,” “consisting of plastic lymph in process of organization.” Having studied adhesive inflammation very attentively for many years, and having examined numberless specimens of plastic lymph in different situations, and in all stages of organization, in several species of the lower animals as well as in man, I feel justified in declaring my belief that the substance there represented, is not plastic lymph at all. The appearance of adhesive lymph is characteristic and pretty uniform, and altogether different from the drawing in question. Furthermore, I think that nobody who has been accustomed to examine the lowly organized plants—*confervæ*—would hesitate to say that the fibres and globules represented, belong to that department of organic life. I speak, sir, of course, of the drawing,—it may or may not be an accurate representation of the expectorated substance; many facts, however, have come under my observation, after witnessing which I should not be surprised to find parasitic *confervæ* in the air tubes of the human lungs.—Your obedient servant,

SIMON ROOD PITTARD,
Lecturer on Comp. Anat. at the Aldersgate School of Medicine.

1, Lamb's Conduit-place,
May 25, 1847.

INJUDICIOUS EMPLOYMENT OF THE LONG FORCEPS.

DR. HOFFMAN applied the forceps 20 times in 637 labours, or about once in 30 cases. Dr. Ramsbotham once in 729 cases. The deaths after application of the forceps in Dr. Hoffman's practice were 35 per cent.; in Dr. Ramsbotham's practice 6·12 per cent. As illustrative of the dangerous force that may be exerted by this instrument, the case may be mentioned in which Dr. Hoffman, having applied it while the head was at the brim of the pelvis, succeeded in extracting the child, but in so doing tore asunder all the joints of the pelvis, and lacerated the urethra and vagina, of which injuries the woman died on the 18th day. In a second case, the application of the forceps to extract a putrid child was followed by the mother's death in 29 hours. In another instance, where the cord was prolapsed and pulseless, a dead child was extracted by the forceps, and the mother died four days afterwards of puerperal fever. In a fourth case, the long forceps was applied to draw a hydrocephalic head into the pelvis, and traction was made with the blades unlocked; though, on a re-application of the instrument some time afterwards, it was found possible to lock it. Craniotomy was at length performed, but the woman died 24 hours afterwards, her vagina being extensively lacerated.—*Dr. West's Report on Midwifery, 1845-6.*

Medical Intelligence.

TYPHUS FEVER IN BRISTOL.

BRISTOL, we regret to say, is, in common with Newport and other places on the western coast, now suffering from the ravages of the typhus fever imported from Ireland, in consequence of the great influx of Irish paupers who have arrived in a state of complete destitution and disease, the effects of the famine in that unhappy country. In St. Peter's hospital, which is in Bristol used as one of the poor-houses, there are now upwards of 40 severe cases of typhus fever, chiefly affecting the Irish paupers; and the greatest care will be required to be taken by the medical authorities to prevent its spreading among the other inmates of the hospital, which contains some hundreds of patients. The governor and deputy-governor of the Bristol Corporation of the Poor have memorialized the Home Secretary on the subject, praying him to take immediate steps to prevent the masters of sailing vessels from bringing paupers from Ireland, many of them in a state of fever, and landing them on our shores, leaving them to the mercy of casual charity or to the relief afforded by the poor-rate.—*Times*.

TYPHUS FEVER IN LEEDS.

FROM the annual report of the Leeds Fever Hospital, it appears that during the last two months the number of fever cases was considerably on the increase. The average admissions of the preceding 10 years amounted to 3,297. The admissions of the year 1844-5 were 329. The admissions from October 1, 1845, to October 1, 1846, were 433; being 104, or nearly one-third more than the admissions of the preceding year. The mortality was 13.6 per cent. or nearly one in seven. The greatest number of admissions was in the month of August, amounting to 69, the smallest number in December and January, viz. 24 in each. The chief mortality of the hospital, as well as the chief prevalence of disease, was between the ages of 10 and 30.

The fever in the town is pretty nearly confined to the Irish immigrants and the localities in which they congregate. Meanwhile the authorities of the borough are taking active measures to avert the spread of the contagion. The town council are seeking out and causing the immediate removal of all nuisances calculated to give rise to malaria; and we trust their efforts will be well seconded by the inhabitants generally; for it is important to remember that this is a question deeply affecting every man, woman, and child in this large borough. The managers of the

Vagrant-office have erected warm baths and other conveniences for thoroughly cleansing the bodies and clothing of all wayfarers who seek the protection of that institution. This, when we call to mind the fact that the malignant typhus which has been working so much evil in many of our localities was imported by wandering Irish mendicants, cannot but be regarded as a well-advised and most necessary step. The board of guardians, in order to afford every facility for the recovery of those unhappy persons who, fever-stricken and destitute, cannot obtain admission to the over-crowded House of Recovery, or obtain accommodation and medical attendance at their own homes, have taken an unoccupied plot of ground in Upper Accommodation Road, whereupon will be created, with all possible speed, temporary hospitals for the reception of fever patients. By these judicious arrangements it is hoped that the malignant typhus fever, at present prevalent amongst us, will be destroyed, or, at least, its progress will be arrested and its extension prevented.—*Leeds Times*.

EMPLOYMENT OF ETHER VAPOUR ENEMATA IN INDIA.

[THE following extracts from an Indian paper are interesting, as they tend to show that the new method of employing ether proposed by Professor Pirogoff, in Europe*, had already been tried in India. The proposition was, of course, made by these gentlemen without any knowledge of each other's experiments.]

SIR,—Having witnessed lately several experiments with the vapour of ether used by means of the inhaler, as recommended in America and in England, none of which were satisfactory, owing perhaps to the apparatus being somewhat imperfect—and having observed in all, that there was much uncomfortable feeling produced, in some, cough—in others, a sense of suffocation, &c. &c., I was led to try whether the same amount of insensibility which the vapour of ether produces, could not be obtained by applying it in some manner which would free the patient from these distressing sensations.

For this purpose, a common pariah dog was procured in the bazaar, and by means of a bladder and common ivory pipe, six drachms of ether (in vapour) were administered as an enema, with the most complete success—the dog became insensible to pain in a short time (five minutes), and remained unmoved by means calculated to occasion the most acute and persevering torture, for twenty minutes.

Hitherto, I believe, this means of using the ether has never been tried: it possesses many advantages over inhaling, and I have no doubt that further experiments will show it is equally applicable to the human subject.

* See our number for May 22, page 950.

My reading has not informed me that ether as an *enema* has been recorded, either in India or in any other part of Europe; I shall therefore feel obliged if you will, in the absence of any medical publication at the Presidency, give this statement a place in your paper. for the benefit of those who like myself are inquiring for, and expecting much more from ether than has yet been announced to the public. The ease with which we may place the lower animals at our command by the means I have mentioned, is evident, and the various shapes in which it possesses the superiority over inhaling, will at once suggest themselves to the mind of every medical man.

The bladder should rest in a basin of boiling water; nothing more is necessary.

I should perhaps mention that the possibility of so using the vapour of ether, was first mentioned to me in conversation, by Dr. Brett.

Some curious questions will naturally present themselves for examination, when we reflect on this mode of using ether, but my present object is simply to record a fact.

I am, sir, your obedient servant,
JAMES CRAWFORD,
Assistant Surgeon, Cannanore.

23d March, 1847.

The editor of the Indian paper subjoins the following note. An answer to his comments will be found in Professor Pirogoff's communication for which we are indebted to Mr. Busk.

Referring to the use of the vapour of Ether as an *enema*, we may mention that it was tried on two individuals, by a medical gentleman here, according to Mr. Crawford's suggestion, but did not answer the expectation of the experimenter. Loss of sensibility was, we believe, produced, but drunkenness, attended by vomiting and other symptoms not consequent on inhalation, supervened in both cases. We confess that this result disappoints us, but it must not be taken as conclusive against the value of Mr. Crawford's idea. That gentleman will, we trust, prosecute his application of the vapour, and make us acquainted with the measure of his success. After having so fully accomplished his object in the case of the dog, we should imagine that he might hope for similar results with some human subjects, although the *enema* appears not suitable to all.

SINGULAR EFFECT OF ETHER VAPOUR.

THE following curious and interesting effect of the ether vapour occurred at the St. Marylebone Infirmary last Saturday. Mr. Stafford amputated the thigh of a man of about 50 years of age, for a disease of the knee-joint, and the ether vapour was administered by Mr. Bell. In about ten minutes the patient became under the influ-

ence of it, and began talking in the most animated manner, as if he were conversing with his friends. As, on pinching the extremities, he did not feel it, Mr. Stafford took this opportunity of removing the limb, which was accomplished by the double flap incision in exactly one minute. While tying up the arteries, the consciousness of the patient gradually returned. He said that he had been drinking and enjoying himself with his friends; and he had not the least idea the limb was removed. He then gave his reasons why he wished to lose his leg, saying it had been a sore trouble to him for six years, and that it had nearly worn him out. He thanked the gentlemen about him for their kind attention to him during his illness, and more particularly one who had relieved him in his distress. He went on to say, "that we should all go down to our graves with grey hair, but that he had trusted in his God, and he knew he would bring him through it." He now looked at his limb, and to his astonishment saw that it was removed. He exclaimed, "Oh! it is off! I did not think that: whoever did it, did it very quickly: but do leave me a good piece of flesh over the bone, for I should like to have a wooden leg, and not go about on crutches, for I have earned many a good pound at my trade (that of a tailor), and hope to earn many another." He was told he might rest assured he should have one, and that every care would be taken of him. When carried to-bed, his wife met him, weeping bitterly. After saluting her, he said, "Don't cry, dear! I suffered no pain; I only thought I was drinking and enjoying myself with my friends: I am quite happy, and have got rid of my annoyance." After this he began singing, but was requested to remain quiet.

The Bishop of Norwich and other distinguished gentlemen, both professional and otherwise, were present at the operation. The Bishop took great interest in the proceedings, and kindly expressed his intention of visiting the patient himself at some future period.

The patient is doing well.

THE STATE OF THE POTATO CROP IN ENGLAND AND FRANCE.

THE French Government have just issued an order that scientific men in the principal towns of each of the 86 departments of France shall examine microscopically, every fortnight, the growing potatoes in the several districts, with a view to discover if the plant be again tainted, and the cause of such a calamity if it should again arise.

With regard to this country, it was stated by one of the ministers, on Friday last, in the House of Commons, in answer to a question, that it was quite true that reports had reached

the government of the potato disease having made its appearance in different parts of the country; but that it was yet far too early to form any decided opinion on the subject. It must be remembered, that last year the extent and character of the potato disease was not ascertained till late in July, and therefore it was impossible for the best informed to form any exact opinion about it at the present time.

In reference to Ireland, at a recent meeting of the Royal Agricultural Society, it was announced that there was evidence of the existence of the disease in specimens laid before the council; and it was ordered that a circular should be prepared and sent to the secretaries of the different local farming societies in connexion with the central one, stating that the council, having received reports from some parts of the country, leading them to fear that the potato crops in those districts were already showing partial signs of disease, deem it right to direct the attention of all growers throughout the country to the necessity of immediately examining their respective crops; and, in order to enable them to form a sound opinion on their condition, they subjoined the following short statement of the principal external marks by which the disease can be generally recognized, namely—

That the disease is to be found in that part of the stem which lies under ground, and may exist although the leaf appears perfectly healthy. That it is shown sometimes on that portion of the stem near the surface of the ground, but more frequently near the seed or set, and presents the appearance of a bruise, or dark mark, upon the surface.

The council further recommend, in any instance where a crop appears decidedly affected with this disease, the immediate substitution of Swedish or Aberdeen turnips, or of mangel or cabbage plants, where they can be obtained; all of which may be dibbled into the drills between the potato stalks, without any additional manure.

In a letter addressed to The Times, Mr. A. Smee states that the *aphis vastator*, to which he attributes the disease, reappeared last week upon the potato plant in every district around London. It may be found upon the under surface of the leaf. The hot weather is highly favourable to the rapid multiplication of this insect.

POPULAR REMEDIES AGAINST THE INFECTION OF TYPHUS FEVER.

WE quote the following from the *Leeds Times* :—

In order to aid as much as possible the prevention of infection from typhus fever, we present the following simple and efficacious recipe of Dr. J. C. Smith, for which he was paid £5000 by Parliament :—"Take

six drachms of powdered nitre (saltpetre) and six drachms of sulphuric acid (oil of vitriol); mix them in a teacup. By adding one drachm of oil at a time, a copious discharge of nitrous acid gas will take place. The cup to be placed during the preparation on a hot hearth or a plate of heated iron, and the mixture stirred with a tobacco pipe. The quantity of gas may be regulated by lessening or increasing the quantity of ingredients." The above is for a moderate-sized room; half the quantity would be sufficient for a small room. Avoid as much as possible breathing the gas when it first rises from the vessel." *No injury to the lungs will happen when the air is impregnated with the gas*, which is called nitrous acid gas; and we cannot too urgently impress its adoption by our readers, assured as we are that it possesses the property of preventing the spread of the contagion.—*Leeds Times*.

REMARKS.—Nitrous acid fumes properly employed by one who understands how to control them, are undoubtedly powerfully antiseptic, and tend to destroy foul exhalations, especially those of which sulphur is a constituent; but nothing is more injudicious than for the daily press to give circulation to "recipes" whereby ignorant persons may do much injury to themselves and others. The proportions of sulphuric acid and nitre here recommended, will, according to circumstances, set free vapours of strong nitric or nitrous acid, highly irritating to the lungs, and destructive to all articles of furniture. We are told in simple ignorance that "no injury to the lungs will happen when the air is impregnated with the gas" (!) We presume the writer means, when the air of an apartment is sufficient to dilute the acid vapours, and thereby render them innocuous! But this is the very point on which a degree of knowledge is required not likely to be possessed by those who are recommended to try the "recipe." The vapours of nitrous acid, even in small quantities, are highly irritating and poisonous, and if respired they may produce serious injury to the air-passages and lungs. By the chemical process recommended, they are, it is true, evolved slowly; but still, in small and ill-ventilated rooms, they may be productive of great injury. When required, they may be produced more readily, more cheaply, and in a more controllable form, by the action of nitric acid on copper.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, June 3d, 1847:—George Roper, Colby, Norfolk—William Elleray, Bolton Le Sands, Lancashire—Mark Hazalwood Clayton, Stratford-on-Avon—Robert

Higginson, Yorkshire—John Bourne, Barnard Castle, Durham—Charles Wankford Currie, Bungay, Norfolk—William Denton Dibb, Hull—Robert Muriel, Ely, Cambridgeshire—Squire Sprigge, Bury St. Edmunds—George Houseman Macnamara, Uxbridge, Middlesex—Henry Slade, R.N.—George Bruce, Old Street, London.

ROYAL COLLEGE OF SURGEONS.

GENELEMEN admitted Members, Friday, May 28th.—D. Badcock—J. R. Lane—C. R. Durell—J. T. Clover—T. P. Collier—T. Rhys—L. Clarke—W. Fritchard—J. A. Simons—R. Davies—J. C. Inglis—B. Daniel.

June 4.—R. D. Lark—H. Fisher—T. Thompson—J. S. Bowling—E. Davies—J. H. Perry—F. H. Ransom—C. Oakley—W. Ellery—C. Irving.

OBITUARY.

JUNE 11th, at Liverpool, Mr. John Whittey, who, in the discharge of his duties as surgeon to the parish, has fallen a victim to typhus-fever, making the third medical practitioner who has met a premature death from this disease within a very few weeks.

On the 22d ult. aged 67, Dougal Campbell, Esq. M.D. half-pay surgeon, Royal Artillery, at Boulogne-sur-mer, where he had been practising as physician for upwards of twenty-five years, sincerely regretted by all who knew him. He claimed the earldoms of Annandale and Hartfell.

Selections from Journals.

ON THE EMPLOYMENT OF ETHERAL INHALATION IN MIDWIFERY. BY PROF. VON SIEBOLD.

At a meeting of the Royal Scientific Association of Göttingen, held on the 8th of May, 1847, a paper was read by Professor Siebold, "On the Employment of the Vapour of Sulphuric Ether in Midwifery," of which the following is an abstract:—

The principal questions which had occupied the author's attention in the investigation of this subject, were—

1st. Whether this new remedy may be employed in natural cases of labour, for the purpose of preventing the severe pains attendant on the latter part of the process of delivery, or

2dly. Whether the use of it is to be limited to cases of operative midwifery.

It must be remarked, in the first place, that, when labour pains are of long continuance, it may be regarded only as common prudence to mitigate or remove those pains

which are strongest and most violent—those, namely, which by the schools are called "dolores conquassantes," and under the influence of which the child's head is pressed through the external genital parts, and is then followed by the trunk. The important moment, then, in which the employment of ether should be resorted to, provided its use in a natural case of labour be decided upon, is that in which the head lies immediately behind the external parts of generation, or has already progressed so far outwards that it becomes evident that at the next pain it will be born.

But, in judging of the admissibility of this new remedy in natural cases of labour in general, the nature of the pains attendant on the process must be especially taken into consideration. These pains are natural phenomena, produced by contraction of the uterus for the purpose of expelling the child. They are endured, therefore, without any detriment, and, even the most severe ones, disappear at once, as if by a charm, directly the child is born. This cannot be said, however, of those pains which are produced by the knife of the surgeon: they, of course, are unpleasant additions to the looked-for effects of an operation, and do not lead, like labour pains, to a certain desirable result. Unlike labour pains, also, they are, from their first occurrence, of the utmost severity, and are therefore not rendered tolerable to the system, as the former are, by a gradual increase in their severity: they are surgical pains, brought into existence by the hand; whilst labour pains appear to be intimately connected with the whole process of the wonderful act of parturition, and may therefore, in contra-distinction to surgical pains, be called *physical* pains.

There is, however, a second kind of pains to which parturient women are subject: these are inflicted from without, and have nothing in common with the real process of labour, but are produced by the hand or instrument of the midwife in cases where an operation is necessary. As the surgeon, so also does the operating midwife, produce pain; and, indeed, the parturient woman then suffers doubly, for the ordinary labour-pains continue, and to these are added the sufferings resulting from the operation. The consequences of this often manifest themselves for a considerable time afterwards, and much suffering is thus entailed, in consequence of the great pain inflicted during the operation. For this reason, therefore, must a remedy which promises to relieve or entirely remove these pains, be welcomed in operative midwifery; and even if theory cannot unconditionally speak in favour of the employment of ether in cases of natural labour, yet this offers no tenable argument

against the use of this remedy in those cases of labour requiring an operation, providing the employment of it is not attended with any ill effects which would interfere with the performance or the object of the operation.

Several points on this subject require experience for their elucidation—such as whether the female organism can endure without detriment the employment of ether during labour,—whether the efficiency of the pains will not be interfered with,—and, lastly, whether the child suffers any harm. With the view of procuring information on these points, the author has instituted a number of experiments in the Lying-in Hospital under his charge, and, in his present essay, communicates the results to the Society.

He experimented, in the first place, on healthy non-pregnant women, in order to ascertain the effect of this remedy on the female system. In all the subjects, the effects of ether vapour were duly manifested, sensation and consciousness being more or less suspended. The description of the sensations perceived by the patients certainly varied; yet they all agreed in their relation of the pleasant and agreeable condition in which they found themselves. In each individual, the same phenomena which were observed the first time were perceived in each subsequent repetition of the etherisation. In this, the action of ether resembles the effects of intoxication from spirituous liquors.

Experiments were then performed on pregnant women; and during these, attention was especially directed to the effects produced on the child in the uterus. As unconsciousness began to appear, the child seemed uneasy, for its movements increased; but it became quiet again when the stupor of the parent was complete. The action of the child's heart, however, was found to continue quite unaltered, not the slightest change in its frequency and regularity being detected.

After this, the remedy was tried in eight cases of labour. In all of them a greater or less degree of unconsciousness was produced by it; but, with the occurrence of the narcotism, the labour pains at once ceased, even in cases where but a short time before they had been of the strongest kind. In some the pains returned only with returning consciousness; but in others they were re-excited, during the continuance of the narcotism, by friction over the abdomen. Signs of pain were indeed manifested during the expulsion of the child; yet afterwards there was either no remembrance at all of them, or only a very slight one. No injury was observed to result either to mother or child; for although *one child was born in a state of*

death-like stupor, yet this was not the fault of the ether, for the umbilical cord was found firmly twisted around its neck.

Although the results of the employment of this new remedy in natural cases of labour was therefore not very satisfactory, yet the advantages afforded by it in those cases which required an operation were very manifest. The first case of this kind in which the remedy was tried, was that of a young primipara, in whom extraction of the child by the feet was rendered necessary. The pains endured by this patient were very sincere: she tossed about the bed, screamed aloud, and, by the continual movements of her whole body, rendered even an ordinary examination difficult. But, when brought under the influence of the vapour of ether, she speedily fell into a state of unconsciousness, during which the extraction of the child was effected with ease. She remained perfectly quiet, and a few groans during the operation were the only manifestations of pain which she evinced. Through the irritation which the extraction of the child excited in the uterus, this organ was thrown into contraction, and thus aided the operation. The child made the necessary turns, the arms appeared of themselves, and the head shortly afterwards was born. In about two minutes after the birth of a living child, the woman roused up: she appeared astonished; and, on seeing her child, exclaimed—"Oh, it is all over!—without this I could not have endured it." When further questioned, she said she felt as if in a dream, and fancied she was in her native place, and strolling among trees in blossom. She had no recollection of pain. The case progressed favourably, and terminated well.

Equally successful were the results of two forceps-operations performed while the patients were under the influence of ether. In both cases, indeed, the commencement of unconsciousness was accompanied by cessation of the labour pains, but in each they were re-excited by the introduction and use of the instruments, and thus aided the operation. The application of the forceps was in both cases unaccompanied by pain, and it was only during traction that any signs of suffering were manifested. When roused from their stupor, the patients possessed no recollection of what had happened to them, and expressed amazement at their labour being over. The children in both instances lived. It is deserving of especial notice, that in both the operations, the parts of generation, the vagina and os uteri, were rendered so soft and lax by the narcotism, that the introduction of the blades of the forceps could be effected with the greatest ease. In neither case did any evil consequences result: in one of them, indeed, such effective pains ensued shortly after delivery, that the

placenta was spontaneously expelled. The softness and relaxation of parts in these cases leads to the suggestion that in those cases in which strong contraction of the uterus offers considerable difficulty in the performance of a requisite operation—as in cases of turning, or of incarcerated placenta—the vapour of ether may render very efficient service.

If from the above observations it be permitted to come to a decision in regard to the use of this new remedy, and to answer the two questions stated at the outset, one might, in the first place, give expression to the opinion of the author by saying that this remedy will find no particular favour in cases of natural labour. For, suspension of labour pains, or cessation of uterine contraction, is the usual consequence of the employment of the remedy, and the natural process of labour will, therefore, obviously, be interrupted by it. It is even possible that through the cessation of the efforts of uterine contraction, the occurrence of hæmorrhage will be induced, and thus a troublesome and dangerous addition be made to the more ordinary risks of labour. The employment of ethereal vapour in natural labour will therefore probably be limited to those cases in which pains of remarkable severity occur.

There is yet one other remark to be made, supposing it be determined to use the vapour of ether in cases of natural labour:—may this remedy be placed in the hands of midwives?—the law has already given the proper answer to this question in the case of inferior surgeons and dentists; it has prohibited these from the employment of this remedy except with the concurrence of a physician. Yet the subject is of still higher importance in regard to midwives, but no enactment of a like nature has yet appeared to regulate the employment of this remedy in this its hitherto almost unknown, and but little practised, application.

In answer to the second question stated at the commencement, it may be said that the true use of the vapour of ether in midwifery is limited to cases requiring operation; experience from all sides has spoken in favour of its employment in such cases. Here we have to deal with pains which are inflicted from without, and the removal of which, by the use of ether, is a great gain; and that they may be removed experience has shewn; it has shewn also that neither the mother nor the child are any the worse from the employment of this remedy, but, on the contrary, that the operation is rendered easier of performance by the softening and relaxation of the parts which is induced. The fear lest contractions of the uterus should entirely cease is also groundless, for the irritation which is excited in the uterus by the operation is sufficient to cause a renewal of

its action. The temporary interruption of the contractions is, indeed, of considerable service to the operator; for the operation of turning is often rendered very difficult by these contractions, since, the liquor amnii having escaped, the uterus is firmly clasped around the child, and thus considerable obstruction is offered to the passage of the hand to the child's feet. But in such cases much is to be hoped for from the use of ether; and an operation which, under ordinary conditions, is difficult, will be thereby much facilitated. Like good effects will probably also result from the use of this remedy in cases when the placenta is retained after the birth of the child; but for the determination of this, experience is required. It may be necessary, however, to mention that this remedy must be employed with great caution, and with due regard to all contraindications; among which should be included a diseased state of the lungs, and a plethoric condition of the system, which latter might be apt to lead to apoplexy. Moreover the remedy should not be employed in cases where there is a tendency to hæmorrhage, and in which such tendency has manifested itself in previous labours; for by the use of it, the best guard against hæmorrhage, namely, uterine contraction, is withdrawn; and, indeed, we require further observation to show us whether even a more serious kind of hæmorrhage may not be induced by the inhalation of ethereal vapour.* All this shews that further observations are required before a right judgment can be formed regarding the circumstances under which this remedy may be employed even in cases of operative midwifery.

With regard to the observations which have been offered by others on this subject, the chief ones are noticed by the author: among others, those of Dr. Simpson, (the first who employed this remedy in a case of midwifery requiring operation,) of the German physician Dr. Hammer, of Mannheim, and of the French physicians Paul Dubois and Bouvier.

SPECIAL PATHOLOGY.

CASE OF INTUSSUSCEPTION TERMINATING FAVOURABLY BY THE DISCHARGE PER ANUM OF INTESTINE MEASURING ABOUT SIXTEEN INCHES IN LENGTH.

A VERY remarkable case is related by Dr. A. B. Dayton, of Middleton Point, N. J., in the New York Journal of Medicine, purporting to be of this character. The subject of the case was a man 35 years of age, whose previous health had not been good,

* [The tendency which etheralized blood manifests to remain fluid after death renders it probable that the above-expressed fear will be found to be far from groundless.]

and who had had two or three severe attacks of colic, and who was seized with severe pain in the right lumbar region while attending to his ordinary business. Bleeding and a cathartic partially relieved him. Three days afterwards, when seen by Dr. D., he was suffering from pain in the right lumbar region, with considerable tenderness of the abdomen generally; and from this time he continued to suffer at short intervals the most excruciating pains, except when under the influence of anodynes. He continued in this state for four weeks, during which time he became very much emaciated, and death seemed inevitable, "when he voided per anum a portion of intestine from twelve to sixteen inches in length, either in one or two pieces; it was in two pieces when I first saw it, but it may have been torn into two by persons who had been previously examining it. The part which I exhibited to the Society, and still have in my possession, is twelve inches long; the other part, which was lost during the cleaning and washing, was supposed by those who saw it with myself, to be not less than four inches long; so that the whole would vary but little from sixteen inches.

"The portion passed is small intestine, having all its characteristics well marked. It is not, neither was it, as I believe, a continuous tube, in form of natural intestine, but is divided in its whole length; its edges being uneven, rough, and jagged; its mucous surface in spots, dotted over, and in other places almost covered with small dark granular particles, being hard and resembling grains of sand, except in colour; there were also two or three patches, from half an inch to an inch in diameter, in which the entire coats of the intestine are changed into a dark mahogany-coloured substance, not dissimilar to thin turtle-shell either in hardness or appearance. A considerable part of the intestine presents a healthy aspect, except at its sloughed edges."

What is most extraordinary, if there be no mistake as to the nature of the case, is that "the attack neither commenced with, nor was it during its whole course attended with vomiting, unless the emesis was the effect of medicine; neither was there obstinate constipation of the bowels, for cathartics operated freely and kindly, without unusual pain or difficulty, from the beginning to the termination of the disease.—*American Journal of Medical Sciences.*

CASE OF ILEUS—A PORTION OF INTESTINE DISCHARGED BY STOOL. BY DR. NAGEL, OF LEMBERG.

K. J., a domestic, 21 years of age, robust, always enjoying good health, except frequent attacks of colic within the last few years, was attacked in the night, 12th—13th Feb.,

1843, with violent pains in the lower part of the abdomen, accompanied with shivering, frequent vomiting, and purging. On admission into the hospital on the morning of the 13th, he was in the following state:—Head hot and painful; tongue foul; thirst; abdomen swollen, and tender to the touch; skin dry; pulse full, hard, and frequent; vomiting, with watery stools tinged with blood. (Antiphlogistic treatment.)

The symptoms continued much the same till the 16th, when they diminished in intensity, and the stools were no longer tinged with blood. On the 19th there was violent tenesmus, accompanied on the 23d with prolapsus of a portion of intestine, which, however, was easily reduced without causing pain.

On the 26th, the patient, free from fever, and altogether in a satisfactory state, passed by stool a portion of intestine 20 inches long, and at some points 2 inches broad; it consisted of a portion of the ileum, the cæcum, appendix vermiformis, the whole of the ascending colon, and a portion of the transverse. The mucous membrane was everted, of a brownish colour striated with black, especially the cæcum; it was soft and easily removed. The peritoneal coat was likewise of a brown colour, and corroded, leaving bare the muscular coat, which was also destroyed at some points. For some days after there was slight pain at the lower part of the abdomen; but on the 23d March the patient left the hospital perfectly cured.—*Ibid.* from *Oesterreichische Med. Wochenschrift.*

A case of intussusception, in which a portion of intestinal structure (probably of small intestine) was voided by stool, the patient subsequently recovering, was related by Mr. Jeaffreson at the Medico-Chirurgical Society. (see *MED. GAZ.* June 6th, 1845.) In the discussion which followed the reading of this paper, Dr. Webster stated that he had met with an instance in which 25 inches of intestine came away, and the patient recovered. In the *Edinburgh Medical and Surgical Journal* for October, 1835, there is an abstract drawn up by Dr. William Thomson, of 35 cases in which a portion of the cylinder of the intestinal canal had become detached, and been discharged by stool.

THERAPEUTICS.

EMPLOYMENT OF ALKALIES IN DIABETES.

In a diabetic patient in whose blood a large quantity of sugar was detected, M. Polli observed the blood to possess a highly alkaline reaction—a circumstance which he considers to be quite opposed to M. Mialhe's view of the real nature of diabetes. Moreover, he observes that, in two cases of

diabetes under his care, the prolonged use of alkaline remedies produced no diminution in the quantity of sugar contained in the urine, although the patients certainly expressed themselves relieved whilst under this plan of treatment.—*Heller's Archiv.* vol. iii. p. 479.

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, May 29.

BIRTHS.	DEATHS.	Av. of 5 Spr.
Males.... 628	Males.... 503	Males.... 466
Females.. 645	Females.. 457	Females.. 446
1273	960	914

DEATHS IN DIFFERENT DISTRICTS.

(34 in number;—Registrars' Districts, 129.
Population, in 1841, 1,915,104.)

West—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326)	112
North—St. Marylebone; St. Pancras; Islington; Hackney .. (Pop. 366,303)	191
CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London .. (Pop. 374,754)	187
EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar .. (Pop. 363,247)	219
SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich .. (Pop. 479,469)	251
Total	960

CAUSES OF DEATH.

ALL CAUSES	960	Spring av. 914
SPECIFIED CAUSES	959	909
1. Zymotic (or Epidemic, Endemic, Contagious) Diseases ..	188	106
<i>Sporadic Diseases, viz.—</i>		
2. Dropsy, Cancer, &c. of uncertain seat	103	90
3. Brain, Spinal Marrow, Nerves, and Senses	148	158
4. Lungs and other Organs of Respiration	269	275
5. Heart and Bloodvessels	35	29
6. Stomach, Liver, and other Organs of Digestion	94	70
7. Diseases of the Kidneys, &c.	6	8
8. Childbirth, Diseases of the Uterus, &c.	13	10
9. Rheumatism, Diseases of the Bones, Joints, &c.	10	6
10. Skin, Cellular Tissue, &c.	7	3
11. Old Age	57	57
12. Violence, Privation, Cold, and Intemperance	29	28

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	14	Convulsion	40
Measles	30		
Scarlatina	20	Bronchitis	47
Whooping-cough ..	53	Pneumonia	58
Typhus	52	Phthisis	133
		Dia. of Lungs, &c. ..	12
Dropsy	12	Teething	11
Sudden deaths ..	15	Dia. Stomach, &c. ..	9
		Dia. of Liver, &c. ..	13
Hydrocephalus ..	28		
Apoplexy	25	Childbirth	6
Paralysis	14	Dia. of Uterus, &c. ..	6

REMARKS.—The total number of deaths was 46 above the weekly spring average. Zymotic diseases are becoming more fatal, and among these we may particularly point to the deaths from measles and typhus fever, which are much above the spring average. The deaths from purpura are 7, to a spring average of 0.4!—As a remarkable instance of longevity, it may be observed, that in the week ending May 23d, a man was reported to have died from "chronic asthma" at the age of 102 years in the subdistrict of the Borough Road.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer	29.69
" " Thermometer	63.4
Self-registering do. max. 111° min. 29.2	
" in the Thames water — 69° — 60.3	

a From 12 observations daily. b Sun.

RAIN, in inches, .21: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 5.4° above that of the month; and the greatest range in the thermometer was no less than 81.8°!

NOTICES TO CORRESPONDENTS.

The length of Dr. Pickford's letter precludes its insertion this week. The subject to which it refers is, however, of so much importance, that we shall take an early opportunity of giving it a place in our columns.

We regret that we have been compelled to postpone until next week the clinical lecture of Dr. Todd, and the communications of Dr. Wood, Dr. Mackenzie, Mr. Richardson, and Dr. Coley.

Dr. Letheby.—We would advise Dr. Letheby to address Dr. Bird on the subject to which he refers in his note, when no doubt a satisfactory explanation will be given.

The use of Ether in Apiaries.—We have received a letter on this subject, in which the writer asks for a more detailed description of the method of introducing the ether into the hive, without injuring the bees. Doubtless the correspondent who has already communicated to us this ingenious method of avoiding the entire destruction of a useful insect, will furnish the information required, or perhaps he will permit us to forward his address to the respectable practitioner who makes the inquiry, and who feels much interested in the subject.

Inquirer next week.

The request of Mr. G. M. Davis shall be attended to.

We will bear in mind the suggestion of S. W. F.

We have been obliged to postpone the Reports of the Manchester Pathological and other Societies.

Dr. Dick's paper will be inserted.

Dr. Wardell's communication has been received. We shall shortly resume the publication of the contributions on the Epidemic Fever.

ERRATUM.—In Dr. Golding Bird's lecture in the last number, the woodcuts on pages 978 and 979 were accidentally transposed: that on page 978 with the description on the top of page 980 should have been at the bottom of the first column of the latter.

Lectures.

LECTURES

ON THE

DISEASES OF INFANCY AND
CHILDHOOD,

Delivered at the Middlesex Hospital,

By CHARLES WEST, M.D.

Physician-Accoucheur to, and Lecturer on Midwifery at, the Middlesex Hospital, and Senior Physician to the Royal Infirmary for Children.

LECTURE IV.

Cerebral Hæmorrhage.—The rupture of any large vessel in childhood very rare, but effusion of blood into arachnoid frequent—reasons for its especial frequency in new-born infants—its symptoms and treatment.—Blood sometimes effused external to the skull in new-born infants.—Cephalæmatoma, its characters, changes in the effused blood, and process of cure—its treatment.—Hæmorrhage into arachnoid in childhood—changes in the effused blood—obscurity of the symptoms—occurs sometimes in very feeble children, or in connexion with changes in the blood—illustrative cases.—Hæmorrhage into cerebral substance in childhood extremely rare—cases in illustration of its causes and symptoms—capillary hæmorrhage in connection with tubercle in the brain.

WHEN we last met, I called your attention to the very important consequences that may result from the vessels of the brain becoming overloaded with blood. I pointed out to you a train of symptoms, rising in severity from mere pain, or heaviness of the head, to convulsions or coma, according to the degree of the cerebral congestion; and told you that death itself might take place without any mischief being discoverable afterwards, more serious than a general turgescence of the vessels of the brain and its membranes. "Simple apoplexy," indeed, is by no means rare in childhood, and the knowledge of this fact may furnish encouragement to us in cases where the symptoms of present danger are most alarming. We may hope, that if the instant peril can be averted, the blood, which has not burst its vessels, will flow again tranquilly through them, and the functions of life once more go on in their wonted course. In the adult we could scarcely indulge such an expectation, for the import of apoplectic symptoms is generally far more serious. If the patient die, we look for, and seldom fail to find, blood

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poured out into the brain, compressing its substance, and lacerating the delicate fibres along which the nervous influence travels. Or, even should he survive, it often is to pass through a tedious convalescence, with palsy, and weakened senses, and impaired mental powers, the sad and standing evidence of the grievous injury which the brain has sustained.

You may naturally inquire how it happens that in the child, the very structure of whose skull favours the occurrence of cerebral congestion, hæmorrhage into the brain is comparatively so rare, while in the adult, whose unyielding cranium and firmer brain tend to check congestion, the extravasation of blood into its substance takes place so often? The changes which advancing age induces in the structure of the cerebral vessels are probably the chief cause of this difference. In early life the arteries are yielding, and admit of being greatly distended without giving way; but in the course of years they lose their elasticity, their calibre becomes diminished and unequal, and their coats grow brittle by the deposit of a cartilaginous or earthy matter in their tissue.

But though the larger arterial trunks withstand the constantly recurring variations in the cerebral circulation during infancy and childhood, the smaller and more delicate vessels of the brain are very liable to give way, and capillary hæmorrhage, or hæmorrhage by exhalation, as it has been often, though incorrectly, termed, takes place with greater frequency than in adult age.

All periods of childhood are not equally exposed to this accident, but it is oftenest met with immediately after birth; and no circumstances can be imagined more favourable to its occurrence than those which then concur to produce it. The head of the infant has been subjected to severe and long-continued pressure during its passage through the mother's pelvis; immediately on its birth, the course of the circulation is altogether changed, and should any difficulty occur in the establishment of the new function of respiration, a long time will elapse before the blood flows freely through its unaccustomed channels. No one will wonder that death should frequently take place during this transition to a new kind of existence. The tumid scalp and livid face of many a still-born child point to one of its most important causes, since they are but the measure of that extreme congestion of the vessels within the skull that has at length ended in a fatal effusion of blood upon the surface of the brain.

There would be reason to fear that this occurrence had taken place, if an infant, when born, were to present great lividity of the surface, and especially of the face; and

if the heart were to beat feebly, and at long intervals, although the pulsations of the cord were slow and faint, or had altogether ceased. Under these circumstances death sometimes takes place without any effort at respiration being made, the beatings of the heart growing feebler and fewer till they entirely cease; but at other times the child breathes irregularly, imperfectly, and at long intervals. The hands are generally clenched, and spasmodic twitchings are of frequent occurrence about the face, or these twitchings are more general, and more severe, and amount almost to an attack of convulsions. The symptoms, however, are by no means uniform, and probably are in some degree modified by variations in the seat as well as in the quantity of the effusion, for it sometimes happens, even in cases where a very large quantity of blood has been poured out into the arachnoid cavity, that the breathing is little or not at all disturbed, and that after living for a few hours in a state of weakness and torpor, with chilliness of the whole surface, the child dies without any sign of convulsion.

Instances of this form of asphyxia will be sure to come under the notice of those of you who engage in midwifery practice. I need hardly remind you that the first indication to fulfil in their treatment is to relieve the overloaded vessels of the brain, by allowing of the escape of half an ounce or an ounce of blood from the divided umbilical cord. When the diminished lividity of the surface shows that this end has been attained, the cord should be tied, and the child may now be plunged for a minute or two in a hot bath at 100° or 102°; but prolonged immersion in a warm bath at a less elevated temperature is likely to depress the nervous energy. While the body is in the bath, cold water may be dashed rather smartly on the face or chest, by which means the inspiratory muscles are often excited to action. If, however, the child do not soon begin to breathe, you must not continue too long the use of these or of other subsidiary measures, such as the application of ammonia to the nostrils, tickling the throat or nares with a feather, &c., for you would thus fruitlessly consume that time which would be much more usefully spent in making a persevering trial of artificial respiration.

If no occurrence have taken place more serious than a very great degree of congestion of the cerebral vessels, you will generally succeed, by the use of these means, in restoring the child. Often, however, it will happen that your attempts at resuscitation will fail completely, or that after breathing imperfectly for a few hours without having ever seemed thoroughly restored, the child will die, and you will then find blood poured out into the cavity of the arachnoid. The

extravasation is sometimes limited to the neighbourhood of the cerebellum, but at other times it covers a considerable part of the convex surface of the brain, and even occupies the spinal canal; as you see in this by no means exaggerated representation of a case of infantile apoplexy in Cruveilhier's great work on morbid anatomy.*

It fortunately happens that the overcharged vessels of the head in the new-born infant do not always relieve themselves by pouring out blood within the skull, but sometimes the capillaries of the scalp give way, and blood is extravasated into its tissue; or, at other times, the effusion of blood takes place between the bone and the pericranium. When this last accident occurs, it often gives rise to the formation of a tumor upon the head that presents peculiarities sufficient to call for some notice.

This tumor (cephalhæmatoma, as it has been called, from *κεφαλή* head, and *αἷμα* blood, from *αἷμα* blood) makes its appearance within forty-eight hours after birth—often much sooner—on one or other parietal bone, most frequently on the right, as a circumscribed, soft, elastic, slightly fluctuating, painless swelling, beneath the unchanged integument. On a careful examination, it is generally felt to be bounded by a firm, apparently osseous ridge, which usually encircles it completely, though more distinct at one part than another. On passing the finger over the summit of this ridge, and down towards the base of the tumor, the impression is at once conveyed of the parietes of the skull being deficient at this point, and of the ridge being the edge of a hole in the bone. When first discovered, the tumor is usually small, but increases in the course of two or three days, from the size of half a marble to that of a chestnut, or of half a hen's egg. As it grows larger it generally becomes tenser, but still seems to cause no pain, and the child's health continues good. After it has attained its full size, it often remains stationary for a few days, and during this time a gradual increase in the distinctness of the ring which surrounds it is the only change that it undergoes. A slight diminution in the size of the tumor at length becomes perceptible, and then it slowly disappears, though its removal occupies a month, six weeks, or more, and a slight elevation of the skull at the point where it was situated sometimes remains even longer. The centre of the tumor generally retains its soft and fluctuating character nearly to the last, but occasionally it loses this, and communicates to the finger a sensation of crackling, such as we should experience if we pressed on a piece of tinsel.

Although once the subject of much difference of opinion, the mode of formation of

* Anatomie Pathologique, liv. xv. pl. 1.

these tumors, and the nature of the changes they undergo, are now tolerably well understood. The edges of the os uteri, compressing the fetal skull during labour, just as, in this engraving*, the hands are represented compressing it, often produce an effect similar to that which you see depicted here, and occasion an oozing of blood from its surface. The quantity of blood thus poured out is usually small, and is then speedily absorbed, without having at any time produced a perceptible swelling. If, however, it be more considerable, a tumor is formed on the exterior of the skull, and this tumor may continue to enlarge for some time after birth, owing, possibly, to the influence of causes calculated to keep up a congested state of the brain, and to favour the effusion of blood.†

The blood thus effused speedily coagulates, and the edge of the coagulum sometimes conveys to the finger an indistinct sensation of a raised border surrounding the tumor. The elevated ring that is afterwards plainly felt circumscribing it, is, however, mainly the result of a reparative process, in the course of which a fibrinous exudation is poured out over that part of the skull whence the pericranium has been detached, and is heaped up in great abundance just where the bone and its investing membrane come again into apposition. This is proved to be its real source, by the circumstance that the ring becomes much more evident after the absorption of the blood has commenced, than it is at first; while in those cases where the effusion of blood has been very considerable, no ring is perceptible during life, and it is found after death that scarcely any attempt at reparation has been made, and that the fibrinous exudation is very scanty, or altogether absent.

This exudation is generally absorbed in course of time, but sometimes a process of ossification is set up in it: the fibrinous ring becomes converted into an osseous ridge, and that part of the cranium over which the blood had been poured out is roughened by the formation of new bone upon its surface. The meaning of the appearances thus produced was long misunderstood, and they were thought to be owing to a process of destruction, not to one of cure. The rough-

ened surface of the skull was looked on as the result of ulceration, by which its outer table had at one part been destroyed, and the bony ridge around it was supposed to be the edge of that part of the outer table to which the disease had not yet extended. The real nature of these changes was extremely well exemplified in a very remarkable case that came under my notice, in which blood was effused between the skull and dura mater, as well as between it and the pericranium.* This drawing shews the processes of cure in progress. First, however, you may notice the perfect smoothness of the inner surface of the bone, which the edge of the clot is raised in order to display. Its outer as well as its inner investment had been detached from this portion of the skull by the effusion of blood beneath them, and the bone continues unroughened, because an attempt at reparation was impossible here. At the edge of the clot, the dura mater and the bone come again into contact, and nature has here begun the cure. New bone has been deposited, and an osseous ridge has been formed, precisely similar to that which in so many instances surrounds the external effusion. Nor is this all; but bony plates are beginning to be deposited between the layers of the dura mater; exemplifying the manner in which, when blood has been poured out beneath the pericranium, that membrane sometimes becomes ossified, and accounting for the crackling sensation that in these cases is felt on pressing the tumor.

The characteristics of these tumors are so well marked, that they are not likely to be confounded with swellings of the scalp produced by any other cause. A hernia of the brain, indeed, may present some resemblance to them, since it forms a soft painless tumor, unattended by discolouration of the integuments; and the edges of the aperture in the bone through which the brain protrudes may easily be taken for the ring which surrounds an effusion of blood beneath the pericranium. Independently, however, of the pulsating character of the swelling formed by hernia of the brain, its situation at one of the fontanelles, probably the posterior, or in the course of one of the sutures, will generally distinguish it sufficiently from these sanguineous tumors, which are almost always seated on the parietal bone, and near to its protuberance.

While the nature of this affection was ill understood, many practitioners regarded it as of very serious import, and thought that its cure could be effected only by making a free incision into the tumor, and emptying it of the effused blood, or else by applying caustic to its surface, with the view of ex-

* In Valleix's *Clinique des Maladies des Enfants Nouveau-nés*. 8vo. Paris, 1833, Planche 1. fig. 2.

† The various questions relating to the mode of formation of these tumors are fully discussed by Feist, *ueber die Kopfblutgeschwulst der Neugeborenen*, 4to. Mainz, 1839; and by Burchard, *De Tumore Cranii recens natorum sanguineo*, 4to. Vratislavie, 1837; where are likewise mentioned various exceptional cases in which the swelling formed on the parietal bone that had been directed towards the sacrum, and not, as is usual, on the bone which had presented during labour.

* A description of this case will be found at p. 297 of vol. xxviii. of the *Medico-Chirurgical Transactions*.

citing suppuration within it. There is, however, no real necessity for these severe measures, which appear in not a few instances to have caused the death of the child, for the blood will almost always be absorbed, and the tumor diminish and disappear of its own accord. At first, therefore, you may content yourselves with the employment of some simple evaporating lotion, and you would use this rather by way of appearing to do something, than with the expectation that it would really be of much service. So long as the tumor continues enlarging, it would not be desirable to apply pressure to it, since, if much tendency existed to congestion of the brain, the blood thus prevented from escaping between the skull and pericranium might be poured out in a much more dangerous situation within the cranium. After the swelling has ceased to enlarge, a strip or two of plaster might be applied round the head, so as to keep up gentle compression. If, after this had been continued for four or five days, no diminution took place in the size of the tumor, a small puncture might be made in it, so as to let out the blood, and a bread-and-water poultice might then be applied for a day or two. While, however, the affection generally requires but little treatment, and is very rarely attended with danger, it is yet right to bear in mind the possibility of internal as well as external effusion having taken place; in which case, as happened in an instance that came under my own notice, the sudden increase of the former may be followed by apoplectic symptoms, and death.

Perhaps I may be pardoned if I digress for a moment to notice the occasional pouring out of blood beneath the occipito-frontalis or temporal muscle in children as the result of a blow on the head. Unlike a bruise, this effusion does not always take place at the precise spot where the injury was inflicted, but the greater size of the vessels that traverse the skull at the side seems to be the reason why a shock, such as a fall on the occiput, is sometimes succeeded by the formation of a tumor of this kind at the side of the head, and not at the part which received the blow. It has twice come under my notice under these circumstances. The tumor thus formed is soft, painless, and fluctuating, and its size at first increases very rapidly, but the integuments covering it are neither hot nor discoloured. It is not surrounded by so well defined a ring as circumscribes the swelling formed by the effusion of blood beneath the pericranium, the ridge is imperfect, its edge is much less sharp, and it is often to be felt nowhere except near to the insertion of the temporal muscle.

In this, as in the other case, nature herself is usually fully equal to the removal of the

blood, and the consequent dispersion of the swelling.

Cerebral hæmorrhage, though at no time so frequent as immediately after birth, may occur at any period of subsequent childhood, under the influence of causes that favour congestion of the brain, or even independently of any cause that we can discover. The hæmorrhage still takes place almost invariably into the arachnoid cavity, and blood is sometimes poured out there in very large quantity, but the accident is neither so invariably nor so speedily fatal as in the newborn infant.

If death should follow very soon after the occurrence of the effusion, the blood is found unchanged, forming a more or less extensive layer upon the convex surface of the brain, and extending downwards and backwards towards the base of the organ, but seldom situated at its anterior part unless the hæmorrhage have been unusually profuse. If life be prolonged the clot speedily separates into serum and crassamentum, and a series of changes commences in the latter, the effect of which is to deprive it of its colouring matter, and to convert it, in course of time, into a delicate false membrane which lies in close apposition with the parietal arachnoid. This transformation may sometimes be observed while in course of progress, and a central clot may then be seen gradually losing itself in a membrane that grows more and more delicate towards its periphery. If, as occasionally happens, successive effusions of blood take place, at somewhat distant intervals, this membrane may become thick and firm, and may even present a pearly lustre; which circumstance led some observers into the error of attributing the appearance to alteration and thickening of the dura mater. The amount of the original effusion has much to do with the rapidity of the changes in the clot. If the effusion were but inconsiderable, the serum of the blood soon becomes absorbed, and no other trace of the occurrence remains than the false membrane lining a portion of the arachnoid. If the hæmorrhage were at all abundant, the reddish serum would, even after the lapse of a considerable time, be very evident on opening the sac of the arachnoid, and some of it would probably be found entangled in the substance of the clot. By degrees the serum loses its colour, but its quantity may still continue for a long time undiminished, or the efforts of nature may even entirely fail to accomplish its absorption. The fluid in such cases is either simply contained within the arachnoid cavity, or, having remained inclosed within the clot during the changes which it underwent, appears at length to be situated within a delicate cyst or shut sac. If the hæmorrhage in the first

instance were very considerable, or if it were to recur two or three times, the yielding cranium of the child will enlarge, the head will alter in form, and the case will assume many of the characters of chronic hydrocephalus.*

All writers, even those who, like MM. Rilliet and Barthez, have thrown the most light on the anatomy and pathology of cerebral hæmorrhage in the child, concur in representing its symptoms as extremely obscure. Paralysis, which, in the grown person, is one of the most frequent results of the escape of blood from the cerebral vessels, is so rare in the child that it was observed by M. Legendre† only in one out of nine cases, and by MM. Rilliet and Barthez‡ in one out of seventeen cases. This peculiarity is doubtless in great measure accounted for by the circumstance of the blood being almost always poured out into the cavity of the arachnoid, so that the pressure which it exerts on the brain is generally diffused over the surface of the organ, and is nowhere very considerable.

The absence of paralytic symptoms, however, is not the sole cause of the obscurity of these cases, but the indications of cerebral disturbance by which they are attended vary greatly in kind as well as in degree. The sudden occurrence of violent convulsions, and their frequent return, alternating with spasmodic contraction of the fingers and toes in the intervals, appear to be the most frequent indications of the effusion of blood upon the surface of the brain. I need not say, however, that such symptoms taken alone would by no means justify you in inferring that its effusion had taken place. Many circumstances having reference with the previous history of the child, as well as to its present condition, must be taken into account in forming a diagnosis. Hæmorrhage into the arachnoid cavity is most frequent in early childhood,—symptoms such as have been enumerated then would acquire additional diagnostic importance in proportion to the tender age of the child in whom they occurred. The probability of their betokening this accident would be still further strengthened if the child who experienced them had previously suffered from frequent attacks of cerebral congestion, or had been recently exposed to the sun, without proper covering to the head; or had

been placed in other circumstances calculated to favour determination of blood to the head.

The popular notion that associates the idea of rosy health and general plethora with the occurrence of apoplexy in the adult, is in many instances altogether fallacious. In the case of the child it has still less foundation, since the effusion of blood upon the brain occurs much more frequently in weakly children than in such as are robust. There seems to be reason, indeed, for supposing that the hæmorrhage is sometimes of a purely passive character, and dependent on an altered state of the blood. I will relate to you a case or two as illustrations of this cachectic form of cerebral hæmorrhage.

Some years ago, I saw a little boy, five weeks old, the child of healthy parents, and who had been perfectly well for the first fortnight after his birth; he then, without any evident cause, grew drowsy, and vomited often, and his skin became quite jaundiced. His abdomen at this time was large and hard, and he cried when pressure was made on the right hypochondrium, and these symptoms still continued when he was brought to me. A leech, now applied on the right side, drew a good deal of blood, and the hæmorrhage was stopped with difficulty; the bowels, previously constipated, were acted on by small doses of calomel and castor oil, and in three days the child lost the yellow tinge of his skin, became cheerful, and seemed much better. He was now, however, on the 18th of July, suddenly seized with hurried respiration and great depression, soon followed by violent convulsions, during which he screamed aloud. At the same time it was observed that his left hand had begun to swell, and to put on a livid hue; and, on the 20th, the right hand also became oedematous. His whole surface grew quite sallow, and, on the day before he died, the oedema of the left hand had much increased; the livor had become considerably deeper, and there were small spots of extravasated blood over each knuckle. The right elbow was slightly livid; the right hand much swollen, but of its natural colour; and a small black spot had appeared under the chin, corresponding to the knot of the cap-string. The fits recurred very frequently, the child in the intervals lying quite still; the pupils were contracted, and the condition seemed to be one of extreme exhaustion rather than of coma. On the 20th, the power of deglutition was lost, and after several returns of less violent convulsions, the child died at 9 A.M. on July 21st; about sixty hours after the occurrence of the first fit.

The sinuses of the brain were full of fluid blood; a black coagulum, three or four

* Not having had the opportunity of observing the whole series of changes said to take place in blood effused into the sac of the arachnoid, I have chiefly followed the account given by MM. Rilliet and Barthez, in their *Traité des Maladies des Enfants*, vol. ii. p. 32 to 42.

† *Recherches Anatomopathologiques sur quelques Maladies de l'Enfance*, 8vo. Paris, 1846, p. 130.

‡ *Lib. cit.*, p. 43.

lines thick, covered the whole posterior part of both hemispheres, extending from the posterior third of the parietal bones, occupying the whole concha of the occipital bone, and reaching along the base of the skull to the foramen magnum. A little blood was likewise effused about the anterior part of the base of the brain, though the quantity was very small in comparison with what was found at its posterior part. The substance of the brain was very pale, and all the organs of the body were anæmic, except the liver, which was gorged with fluid blood, while the heart was quite empty. The ductus arteriosus was closed, the foramen ovale admitted a probe with ease, the ductus venosus admitted one with difficulty.

Another instance has since then come under my notice, in which passive hæmorrhage took place into the arachnoid in a child exhausted by long-continued illness, all the effects of which were aggravated by poverty and want. From the age of two to that of five months the child had been under my care in consequence of frequent attacks of hæmatemesis and purging of blood, and, though his health afterwards improved, yet he never became strong, and his evacuations were almost always white and deficient in bile. After he was weaned the coarse food which his indigent parents gave him did not nourish him; he lost flesh and strength, and when almost three years old was puny and emaciated. Three days before his death an attack of diarrhoea came on, which induced great exhaustion; and while suffering from this affection, he suddenly became comatose, cold, and almost pulseless, and his breathing became so slow that he inspired only four or five times in a minute. In this state he lay for twenty-four hours, and then died quietly. Nearly six ounces of dark coagulated blood were found in the sac of the arachnoid, over the right hemisphere of the brain; a little blood was likewise effused beneath the arachnoid, and there was a very small clot in the lower and front part of the right middle lobe of the brain, but no ruptured vessel could be perceived. Great anæmia of every organ, and a state of extreme attenuation of the walls of the heart, were the only other remarkable appearances.

Hæmorrhage into the substance of the brain, though extremely rare in infancy and childhood, does sometimes occur, and then gives rise to appearances similar to those with which we are familiar in the adult. Death, however, usually takes place too speedily in these cases for any of those changes to take place in the apoplectic effusions which are often observed in the adult, and which betoken the advance that nature

has made in her efforts to repair the injury of the brain.

I have only twice met with distinct extravasation of blood into the substance of the brain in children. In the first case, that of a little girl, 11 months old, the occurrence was evidently due to the impediment to the circulation through the brain produced by an attack of inflammation of the sinuses of the dura mater. In addition to other appearances which I shall describe in a future lecture, there was great venous congestion of the membranes covering the middle lobe of the left hemisphere of the brain, and the cerebral veins were distended with coagula, and their coats were thickened. At the anterior part of the lower surface of the left middle lobe of the brain there were four apoplectic effusions, in all of which the blood still retained its natural colour, and each effusion was situated close to an obliterated and distended vein. The largest clot extended for an inch into the substance of the brain, the others were of smaller dimensions. Head symptoms, as might be expected, had existed in this little child for a long time before her death. The occurrence of the effusion was probably synchronous with a sudden attack of extreme faintness that came on forty-eight hours before she died, and from which she never completely rallied.

The other instance of hæmorrhage into the substance of the brain occurred in a girl 11 years old, the child of healthy parents, and whose own health had been quite good until she was six years of age. At that time the extraction of a molar tooth was followed by necrosis of a large portion of the lower jaw, and by the formation of abscesses on the face and head, from which bone escaped. An abscess, attended with similar exfoliation of bone, formed likewise on the right foot, and it was three years before the child had recovered completely. Though much disfigured by the disease, her health ever after continued good until April 12th, 1846. She was then suddenly and causelessly attacked with vomiting and pain in the head, for which no other treatment was adopted during ten days than the occasional administration of an aperient. During this time, however, a condition of stupor gradually stole over the child, for which on April 21st a blister was applied to the back of her neck with slight relief. On April 23d she had two attacks of convulsions, with an interval of four hours between each. She struggled much during their continuance, especially with the right side; when they subsided, partial palsy of the left side remained: the child complained much of her head, and sank from time to time into a state of stupor, from which, however,

she could always be roused. Very free purgation on the 21st of April, and the application of another blister to the back of the neck, were followed by some amendment. On the evening of the 25th another fit occurred, with symptoms similar to those that had been observed on the previous occasions; but it was not followed by any increase in the palsy of the left side, nor was the degree of stupor so considerable as on the former occasion. Mercurials, which had been employed from the commencement of the attack, had now produced a decided influence on the mouth, and the abundant action of the bowels was again succeeded by much improvement in the child's condition. The pulse, which had varied from 60 to 70, now continued about 70, and was natural in character, and the child improved daily, though taking no other medicines than occasional aperients. The headache returned occasionally, though each time it was less severe than the time before; but on the evening of May 15th, this amendment was suddenly interrupted by an attack of violent pain in the abdomen, which was soon followed by convulsions and coma, and the child died convulsed in 16 hours; on the 36th day from the first attack of pain in the head.

On making an examination of the head, permission for which was obtained with difficulty, blood was found to be effused into the sub-arachnoid tissue over a great part of the right hemisphere of the brain. The quantity of blood, however, was nowhere very considerable, but merely occupied the sulci between the convolutions. The brain presented no remarkable appearance, except that on a level with, and just exterior to the right lateral ventricle, there was a large clot of blood, rather larger than a hen's egg, but of more irregular shape, around which the brain was softened. This effusion was perfectly black throughout, the colouring particles of the blood being equally diffused through it, and no appearance betokened that hæmorrhage had previously taken place in this situation. The anterior cerebral artery ran for a considerable distance just outside the clot, but it could not be ascertained that it had given way at any point.

Cerebral hæmorrhage is one of the few affections of early life concerning the treatment of which but little can be said; for where the symptoms of a disease are so obscure, it would be idle to attempt laying down elaborate rules for its cure. The general principles according to which you would manage a case of congestion of the brain would still guide you if hæmorrhage had actually taken place. It cannot, however, be necessary for me to repeat to-day the observations on that point to which I yesterday directed your attention.

Before concluding, I must for a moment refer to a form of cerebral hæmorrhage, which, though of no great importance, yet forms an exception to what has been stated as to the rarity of the accident in early life. In children who have been affected with tubercular disease of the brain, it is by no means unusual to observe very small effusions of blood in the midst of the softened cerebral matter that surrounds the deposit. This "capillary apoplexy," produced by some of the minute vessels of the brain giving way, is, however, seldom extensive, and probably has but little share even in accelerating the fatal event.

When next we meet, we shall pass from this subject, which, it must be owned, has more of a pathological than of a practical interest, and shall enter on the study of the inflammatory affections of the brain in childhood.

ON THE COMBUSTIBILITY OF THE GASES EXHALED FROM THE LUNGS DURING THE EMPLOYMENT OF ETHER.

FEARS having been entertained lest the approximation of an ignited body to persons submitting to the inhalation of ether might lead to the explosion of the exhaled gases, and consequently to serious damage within the body, M. Landouzy has instituted some experiments for the purpose of ascertaining if these fears are well grounded. The experiments were performed on horses, rabbits, and dogs, and always furnished the same results. He found that when an ignited body was held near the mouth or nose of an animal immediately after the removal of the inhaling apparatus, the vapours exhaled by the animal suddenly took flame; the ignition did not at the longest last more than twenty seconds, and was then spontaneously extinguished without producing any inconvenience beyond slightly singeing the hair around the animal's mouth. When the apparatus had been removed from the mouth for more than a minute the respired gases could no longer be inflamed.

These conclusions are opposed, on the one hand, to the fears which many physiologists have manifested lest an explosion of the etheralized vapours should take place and inflict serious injury to the internal parts of the body; and on the other hand, to the assertions of those experimenters who have stated their inability to ignite the vapours exhaled by animals undergoing the process of ethereal inhalation.—*Comptes Rendus*, Feb. 22, 1847.

LECTURES ON
ELECTRICITY AND GALVANISM,
ON THEIR PHYSIOLOGICAL AND THERAPEUTICAL RELATIONS,

*Delivered at the Royal College of Physicians,
in March, 1847,*

By Dr. GOLDING BIRD, F.R.S.,
Fellow of the College, Assistant Physician to
Guy's Hospital.

LECTURE V.

Application of electricity to excite uterine contractions—Dr. Radford's views—Treatment of chorea and allied affections by electricity—Analysis of the cases—Rationale of the action of electricity—Treatment of amenorrhœa—General rules for—Treatment of paralysis—Different form of—Dropped hands of painters—Rheumatic paralysis—Paralysis of the portio dura—Paralysis from local injury—Hysterical paralysis—Paralysis into cerebral or spinal structural lesion—Conclusion.

THERE is another special application of electricity which I dare not pass over in silence, although I cannot from my own personal experience say anything about it, as the cases to which it is referrible fall under the province of the accoucheur. Few cases are more appalling than those of flooding during labour; none can occur in which the woman's life is more immediately dependent upon the moral courage, promptitude, and skill of the accoucheur. Among other causes inducing this hæmorrhage, an atonic state of the uterus is the most dangerous. In such cases, as well as in many forms of placenta prævia, where the blood is fast gushing from the uterus, and the woman's powers are rapidly sinking, a distinguished provincial obstetric physician, Dr. Radford, of Manchester, has advocated the employment of induced electro-magnetic currents to induce energetic contraction of the uterus. He has further suggested its application for the purpose of originating uterine contractions *de novo* in cases where it is important to induce premature labour, as well as in certain cases of menorrhagia in the unimpregnated state, where the uterus is found large, atonic, and flaccid.

Dr. Radford applies the electricity of the electro-magnetic machine, one of the conductors being passed over the abdomen, especially in the neighbourhood of the fundus uteri, the other being introduced into the vagina so as to be brought into contact with the os uteri. This vaginal conductor is made of stout brass wire,

covered with a non-conducting material, as caoutchouc, and terminated by a ball of silver, by which the electric current is conveyed to the uterus.

This practice, so far as its application to the gravid uterus is concerned, has received the sanction of my colleague, Dr. Lever, whose high obstetric experience invests his opinion with great weight. This gentleman has availed himself of the use of the electric current in cases where atony of the uterus existed, and where, from threatening exhaustion, independent of danger of hæmorrhage, immediate delivery was important. An excellent illustration of this occurred under the notice of a talented and excellent practitioner, a former pupil of mine, Mr. Cleveland (now of Aldersgate Street), the notes of which I will read to you:—

"I was requested to see M. C., æt. 39, in her sixteenth confinement, on Friday morning, June 6th, 1845.

"On my arrival at the house, I learned that her previous labours had been tolerably good; with two or three exceptions, when they had been considerably protracted from want of pains: she stated that her health had always been delicate, and for the last few weeks she had had a troublesome cough, attended with copious expectoration, emaciation, and occasional night sweats.—symptoms that induced me to suspect she had phthisis, although subsequently this diagnosis was not confirmed by a physical examination of the chest.

"On the Sunday evening prior to my visiting her, she was attacked with the premonitory symptoms of labour, soon succeeded by regular and frequent pains, which, on the following morning, abated, but never entirely left her until the Wednesday night, when the liquor amnii was discharged.

"At 1 A.M. on the Friday, the pains returned with considerable vigour, but did not last above an hour, and at 6 A.M. they were again renewed for a short time. It was about four hours after this period that I found Mr. T., a medical practitioner in the neighbourhood, with the patient. He had administered a dose of the tincture of ergot, and also some spirit and water; but these measures were followed by only a few slight and ineffectual pains.

"Having ascertained by an examination per vaginam that there was no obstacle to the termination of the case but a want of contraction of the uterus, and believing it desirable that, as there were some rather alarming symptoms of exhaustion manifested, no time should be lost, I was soon provided with an efficient electro-galvanic apparatus, and resolved on a trial of electricity.

"I was gratified in finding, after a few

applications of the remedy externally and obliquely across the anterior surface of the uterus, alternately changing the position of the conducting wires, that a very decided effect was produced. Regular, strong, and frequent pains came on, and, in the course of a quarter of an hour, a living male child and placenta were expelled, attended with the least degree of hæmorrhage I ever witnessed.

"The uterus was immediately firmly and permanently contracted, and, with the exception of a slight soreness across the abdomen, the patient expressed herself as feeling quite comfortable. She recovered but slowly, on account of the general debility induced by the affection of the chest, but there was not a single bad symptom connected with the uterus subsequently developed."

I am quite aware that Dr. Simpson, of Edinburgh, has expressed his opinion of the inefficacy of the electric current in such cases, and has almost denied its exercising any influence over the uterus. I confess I cannot for one moment admit the validity of his opinions when opposed by the facts of Dr. Radford, Dr. Lever, and others; but would endeavour to show the mode in which these opposite statements appear to admit of reconciliation. This is founded on the opposite effects of currents according as they follow the cause of the centripetal or centrifugal nerves. Now in the magneto-electric coil, in which currents are excited by repeatedly breaking contact by a vibrating bar, the apparatus whose construction I explained at my last lecture, we have, as I have already shown, two currents moving in opposite directions, to each of which the patient who is the subject of experiment becomes submitted. Now these currents are of unequal strength, and if the most energetic, that on breaking contact, be passed in the direction of the *vis nervosa*, it will produce painful contractions, which the moment it passes in the opposite direction will become relaxed. For, as I have proved to you, an inverse current tends to produce paralysis, and a direct current contraction. Hence I should urge the accoucheur not to employ the apparatus in which both these currents traverse the patient, but simply the one I have described to you, as the single current machine, and which is now on the table before me. In using this, I would suggest the positive conductor to be placed over the lumbo-sacral region, and the other be carried only over the abdominal surface with a gentle friction. In this way powerful uterine contractions will be easily excited. You will never find any difficulty in getting this apparatus to act efficiently, as it possesses the great advantage of dispensing with the use of mercury, which has

been hitherto employed in these single current machines.

I have next to direct your attention to those affections in which we have employed electricity as a therapeutical agent. This would occupy several lectures were I merely to detail a portion of the clinical experience accumulated at Guy's Hospital during the last few years on the subject. My limited time will, however, only permit me to glance at its results in some few affections, in which it appeared to me of most prominent service—as in chorea, amenorrhœa, and some forms of paralysis.

Notes of 37 cases of chorea have been preserved: of these

37 cases, { 17 males, } 9 above 16 years.
 { 20 females, } 26 under 16 "

Of these, in 25 the movements were universal,

"	5	limited to the right side,
"	1	" left "
"	2	" both arms,
"	1	" right arm,
"	1	" left arm,
"	1	" sterno-cleido muscles,
"	1	" pterygoid mus- cles.

The causes of the chorea in

17	were traced to terror,
3	" amenorrhœa,
3	" intestinal irritation,
2	" intense cold,
1	" rheumatic fever,
1	" intense grief,
1	" congenital,
1	" mechanical injury,
4	" no apparent cause,
4	" complicated with epilepsy.

Of these, 30 were completely cured,

5	were relieved,
1	refused to continue treatment,
1	uncured. This was a man,
61	years old, where there
	was a suspicion of spinal
	mischiefs.

It is well known that chorea is an occasional sequence of acute rheumatism: indeed, one celebrated physician and pathologist has even suggested the probability of the existence of some connection between chorea and pericardial disease—a too frequent result of rheumatism in youth. That there is some relation, however distant, between chorea and certain states of the heart, is rendered probable by the frequent co-existence of a mitral murmur with this disease. Cases of rheumatic chorea are generally obstinate, and still appear to yield readily to electricity.

H. W., aged 8, a thin, but healthy child, whose general health had been good, stated, that about six weeks previously she was

suddenly seized with great pain in her legs, of which she lost the use. Under medical treatment, the pain left the legs, and attacked the abdomen, and then the arms. The joints did not appear to have been much swollen or red. She recovered in a month, and almost immediately became the subject of chorea, and was admitted into Guy's Hospital on Nov. 2. Her existing symptoms were, continual involuntary jactitation of the legs and arms, with continual contractions of the muscles of the face. She complained of stiffness in the neck, and spoke with extreme difficulty. She took vinum ferri and sulphate of zinc for some time; but, getting no better, electricity was ordered on Dec. 2.

Dec. 8th.—The sparks had been taken daily from the spine. She now speaks and swallows without the slightest difficulty: the involuntary movements of the limbs are much diminished.

18th.—She left the hospital, quite free from all trace of chorea. She remained well until June 20, 1838, when she was brought to the hospital, affected with chorea, confined now to the upper extremities. The electricity was again ordered, and she rapidly got well.

That chorea is often excited by intestinal irritation, is well known, and the possibility of curing such a disease with purgatives is notorious. It will, however, sometimes happen, that, although the exciting irritant is removed, the effects on the nervous system remain, and the chorea persists. In such cases electricity soon effects a cure.

W. J., aged 12, who stated his general health to be good, had been long subject to tape-worm; he had never had rheumatism, or suffered from fright. His present attack of chorea commenced ten months ago, and, although he had been under treatment nearly the whole time, has never been much relieved: he therefore applied at the hospital, and was admitted on Nov. 1. He took purgatives and sulphate of zinc for two months, when, not being any better, he was sent to the electrical room on Jan. 6. At that time his symptoms were the following:—involuntary movements of almost every muscle, so that he had considerable difficulty in walking, and was quite unable to support himself on one leg; his arms were in constant motion, and he had so little control over his fingers that he could not retain anything in his grasp, even for an instant; the muscles of his throat were also in a constant state of involuntary motion, so that his articulation was imperfect, and his words frequently unintelligible; his head was constantly moving, being, with his neck, alternately thrust forward, and retracted in a jerking manner. Sparks were ordered to be taken from the spine on alternate days.

Jan 9th.—Much improved. Involuntary movement of the legs and arm much less.

13th.—Rapidly convalescing.

Feb. 9th.—Presented well.

Where chorea exists in girls as a result of the disturbance of enervation from amenorrhœa, anæmia either not existing or cured by iron, it is a good practice to transmit a few shocks through the uterus, in addition to the sparks from the spine. In this way the catamenia will be generally excited, and the rapidity of the cure be increased.

E. R., aged 16, of previous good general health, menstruated, for the first time, three months ago. After the disappearance of the discharge, she became the subject of involuntary movements of the right arm and hand: these have increased in intensity up to the present time. She appeared at the electrical room in July 1838: sparks were taken from the spine, and a few shocks passed through the pelvis. After the electricity had been applied five times, the catamenia occurred, and the chorea vanished. She continued well until September 19th, when, as the discharge had not appeared at its proper time, she again applied at the hospital. A few shocks through the pelvis excited the deficient functions, and she left quite well.

I have never seen any good effect to result, in cases of chorea, from the transmission of electric shocks along the affected limbs: on the contrary, in every instance the involuntary movements have been increased, often to an alarming extent; and, if employed when the patient was convalescent, it has invariably aggravated every symptom, and often rendered the patient as when first admitted under treatment. The following case is one of several in which shocks were employed in the hope of accelerating the cure, but with the opposite effect of increasing the malady:—

J. B., aged 18, a stout, muscular lad, admitted into Guy's Hospital, stated, that until the last two months his health has been excellent. His employment, as a toll-gate keeper, had necessarily exposed him to the vicissitudes of the weather, which have induced repeated catarrhal attacks: to one of these he attributes his present illness. The involuntary movements first made their appearance two months ago, and are confined to the right half of the body, the left side being unaffected: they were sufficiently severe to prevent his retaining anything in his grasp, and to interfere materially with his walking.

Oct. 7th.—Sparks from the spine daily.—No medicine.

12th.—Improving rapidly; involuntary movements occur, but slight; he can readily keep his right arm extended for a minute or two.

23d.—Scarcely a trace of involuntary movement of the arm left; the leg still remains slightly affected. With a view of ascertaining whether the progress of the case towards convalescence would be accelerated, a few shocks were ordered to be passed along the leg and arm.

26th.—He has grown rapidly worse since the employment of the shocks, and is now almost as bad as on his admission into the hospital. Sparks were again ordered, with gradually increased doses of sulphate of zinc, and in six weeks he was discharged, cured.

Electricity does not appear to be less useful as a remedial agent in cases in which the involuntary movements are confined to a single limb, or to a few muscles of the body only. It would be unnecessary to extend this paper by detailing other cases of ordinary chorea, particularly as they stand recorded in the Hospital Case-books: I shall therefore content myself with relating a few cases of the rarer forms of chorea, in which the disease is extremely limited in its seat.

S. W., aged 12, admitted into the hospital Nov. 5th, having been the subject of chorea during five weeks. The disease is confined to the right arm and shoulder, the limb being in a state of perpetual movement. She attributes the attack to fear, produced by the threats of her schoolmistress. She took for some time sulphate of zinc and sesqui-oxide of iron, and then attended at the electrical room. Sparks were taken from the spine three times with considerable benefit, when she left the hospital. On the 20th of December she appeared at Guy's, among the out-patients, and came under my care. The involuntary movements of the limb were as bad as at first. Some saline rhubarb powder was ordered, as an occasional aperient, and sparks drawn from the spine thrice a week.

Jan. 14th.—She has attended regularly, daily improving, and was to-day discharged, quite well.

The following curious case, although scarcely possessing the characters of chorea, is sufficiently marked to allow it to be regarded as a case of that disease: it still points out, in an interesting manner, the influence which electricity exerts over the involuntary movements of muscles supplied by spinal nerves.

J. T., aged 40, accidentally dislocated his jaw in the winter of 1838; and, after its reduction, became the subject, upon the slightest excitement, and often without any apparent cause, of involuntary motions of the jaw, apparently referable to the pterygoid and the depressor muscles: these produced dislocation of the jaw, often several times in the day. On October 9th, 1840,

this patient applied at Guy's Hospital, and was sent to the electrical room. Sparks were drawn over the affected muscles with remarkable effect, the involuntary movements diminishing so considerably that dislocation of the jaw rarely occurred. On leaving off the electricity, the motions returned, and with them the spontaneous dislocation; but, whenever he recommenced its use, both these disagreeable symptoms vanished.

In another very remarkable case electricity was equally successful. The subject of it was a commercial traveller, who had been overtaken by a snow-storm on Salisbury Plain, and was nearly frozen to death. Soon afterwards, a curious form of partial chorea, affecting chiefly the sterno-mastoid muscles, appeared, and continued for a long time, the head being alternately carried by a series of jactitations from side to side with considerable violence, and he was accustomed to steady his head by holding his nose firmly with one hand. This man was long under treatment at the hospital, and ultimately recovered, on submitting him to the electrical treatment.

The results of my trials of electricity in chorea may thus be deemed very satisfactory. I am quite aware others have not met with the same success, and this is easily accounted for, in their merely seeking the aid of the remedy in cases which obstinately resisted all other means, instead of using it as the primary remedy. Of all remedies I have hitherto used, except perhaps the sulphate of zinc, electricity seems most successful in chorea, and I have invariably employed it wherever I possibly could, since I first saw it employed by my friend and colleague Dr. Addison, who, I believe, first suggested its use in this disease.

It might now be inquired, in what manner does electricity cure chorea? Having reflected much on this subject, I have adopted the conclusion that, as a counter-irritant over the spine, it is more valuable than other remedies of this class, from its ready application, the intensity of its action, and the capability of renewing it daily. It exerts a very important influence over the spinal nerves, and thus aids in submitting them to the dominion of the will. In addition to this, I believe the remedy acts by exciting powerful contraction of the muscles, and thus aids in overpowering their irritability. Indeed, in this way, even independently of all counter-vention, I have more than once seen electricity cure chorea. A remarkable instance of this is at this moment in Guy's. A girl, æt. 14, was admitted under my care, in Miriam Ward, with obstinate universal chorea. I never met with a case in which there was no reason to suspect organic mischief, and which so completely resisted all

remedies, the chorea movements continuing long after the restoration of her general health. I therefore left off all treatment, and requested my clinical clerk to pass a series of electro-magnetic shocks through the arms. In a few days the movements lessened, and in a few weeks quite ceased.

We have twenty-four cases of amenorrhoea reported; the youngest 15, the eldest 25 years of age, all unmarried;—

Of these, 4 were chlorotic,
6 but slightly so,
12 not at all so,
2 complicated with hysteria.

Of these the remedy succeeded in all except the four chlorotic girls.

In electricity we possess the only really direct emmenagogue which the experience of our profession has furnished us with; I do not think I have ever known it fail to excite menstruation where the uterus was capable of performing this function. Disappointment will, however, most certainly result if we have recourse to electricity merely because a girl does not menstruate; and we must never lose sight of the fact that, after all, the large majority of cases of amenorrhoea depend upon an anemic condition; and the patient does not menstruate, simply because she has no blood to spare. Nothing can be more ridiculous than applying electricity or any other local stimulant to the uterus when chlorosis exists; the first great indication will be to restore general health, give iron to make up for the previous deficiency of that element in the blood, and then and not before, think of stimulating the uterus. It is true that, in a large proportion of cases, the catamenia will appear as soon as the chlorosis is cured,—of course, in such cases, there will be no need of the employment of electricity; but still a large number will occur in which, even after the complete relief of the chlorotic and anemic condition, the uterus remains torpid and refuses to act; in such cases a few shocks transmitted through the pelvis seldom if ever fail in effecting menstruation. I have repeatedly known the catamenia, although previously absent for months, appear almost immediately after the use of the electricity; in more than one case the discharge actually appeared within a few minutes. The mode in which electricity has been generally employed, has been by transmitting a dozen shocks from an electric jar, holding about a pint, through the pelvis; one director being placed over the lumbo-sacral region, the other just above the pubes. In private practice, in which the employment of the cumbersome electric machine is very inconvenient, I have substituted with advantage the induced currents of the electro-magnetic apparatus, the conductors being placed as before.

The alternating current may be used in these cases, as the electricity appears simply to act as a local stimulant, quite independent of exciting any uterine contraction.

No class of affections has been more frequently submitted to the agency of electricity than cases of paralysis of some part of the body, and in none have more triumphant success and more bitter disappointment followed its use.

Paralysis is so general a term, indicating so vast a variety of pathological conditions, that no opinion whatever can be given of the utility of the agent in question without being more precise in our definitions. One general remark, however, I may venture to make, that under no circumstances whatever have I ever seen any of the modifications of electricity of use in the treatment of paralysis attendant with permanent contractions; a condition so frequently observed in the upper extremities.

Practically I would divide the forms of electricity presented to us for treatment, into the following:—

- 1, Cases of paralysis from the poison of lead,
- 2, " rheumatic paralysis confined to the limbs,
- 3, " paralysis limited to portio dura,
- 4, " following local injury to a limb,
- 5, " hysterical,
- 6, " dependent upon persistent cerebro-spinal lesion.

I now propose to consider *seriatim* the result of the use of electricity in its various forms in these different varieties of paralysis: and first of cases of dropped hands, as

Paralysis from lead.

Of eleven, notes have been preserved.

- 5 were cured,
- 4 " improved,
- 2 " not relieved.

Of these cases, 7 were traced to the patient's trade as a painter,
" 2 to sleeping in freshly-painted room,
" 1 handling types as a compositor,
" 1 washing bottles with shot.

The following three cases will sufficiently illustrate the results of our trials in this affection:—

R. G., aged 19, admitted into Guy's Hospital July 12, 1837. He had been employed as a compositor during the last five years, and consequently engaged constantly in handling printers' types, in which lead enters as a prominent ingredient. His health up to the three preceding weeks had been excellent: at that period he first noticed a tremulous state of both hands, and shortly afterwards suffered from a severe attack of

colic. At the time of admission he had paralysis of motion of both hands, chiefly confined to the extensor muscles: his general health was extremely deranged, and, from debility, he had extreme difficulty in walking. From the medical treatment employed, he became considerably improved; but not regaining power over his hands, he was sent to the electrical room on September 2: at that time he was completely anæsthetic, this state having gradually come on during the past year; and he had rather more power over the left arm than the right: sensation was tolerably perfect.

Sept. 2.—Sparks from the cervical and dorsal regions of the spine thrice a week. The papular eruption was produced with difficulty. He continued this treatment, with marked improvement, for some time; when, from an attack of bronchitis, he was confined to his bed.

Nov. 8.—Resumed the electrical treatment.

27.—Gradually acquiring more power over the paralyzed muscles; and his pupils, previously nearly insensible to light, now contract and dilate readily, although he remains completely blind.

Jan. 12.—Paralysis completely cured; the anæsthesia remains unrelieved.

C. B., aged 29, by trade a cooper, whilst at work, ten days before, was seized with a sudden feeling of loss of power in the right wrist and hand, which he attributed to his having been previously engaged in mixing white paint. On admission into the Hospital, in August, 1840, the paralysis of motion of the extensors of the affected hand was complete: general health tolerably good. Ol. Ricini p. r. n., Sulph. precip. 3i., t. d. Weak shocks down the arm, from the spinous processes of the cervical vertebrae to the fingers.

Sept. 11.—Has rapidly improved, and is now able to resume his work.

In cases of the dropped hands of painters, the conditions before mentioned being borne in mind, the electric sparks drawn from the region of the cervical and dorsal vertebrae are generally efficacious in at least aiding, if not effecting, a recovery. I have generally, also, directed them to be drawn from the paralyzed parts; and, in recent cases, small shocks transmitted along the course of the affected nerves, have considerably accelerated convalescence: but in chronic cases I have repeatedly seen a cure effected by drawing sparks from the spine, on alternate days, for weeks, after shocks had been passed along the paralyzed parts in vain. The following is a case of this kind:—

W. C., aged 36, a plumber, admitted November 26, 1840, first noticed, three years before, a numbness of the right hand, which terminated in total paralysis of the extensor

muscles. A year ago, the left wrist became similarly affected, and he is now unable to raise either hand.

Nov. 26.—Sulph. precip. 3i. t. d. Shocks down the arms on alternate days.

Dec. 16.—No improvement. He has no more power over his wrists than on admission. I directed sparks to be taken from the spine, thrice a week, for six or eight minutes.

Jan. 2.—Has gained power daily, and soon after this date was able to resume his work.

Rheumatic paralysis has been repeatedly treated by electricity, and notes of ten cases are preserved; the youngest 15, the eldest 50 years old.

Of these, 5 were paraplegic, limited to both legs,

1 " " hands,
3 limited to the right arm,
1 " " right leg.

Of these, 5 cured,
3 relieved,
2 uncertain.

Under the term *rheumatic paralysis*, I would include all cases in which the palsy followed the sudden application of cold, independently of any evidence of central spinal lesion. Such cases are common enough; they are sometimes attended with peripheral pains of a rheumatic character, and even occasionally with redness and tumefaction of the joints, which, however, is always evanescent. The line of demarcation between rheumatism and some of these forms of eccentric paralysis is very ill defined, and, indeed, lends considerable support to the idea of a close connection between rheumatism and some lesion of functions over which the true spinal system presides.

R. E., admitted Sept. 27th, under the care of Dr. Addison. It appeared that ten months previously, whilst on board a trading vessel off the coast of Africa, he became the subject of fever, for which cold affusion was copiously used; and to this he attributes the paralysis of the right forearm and both hands, which appeared when convalescing from the disease. On admission, he was quite unable to move the paralyzed limbs: his general health appeared excellent.

Sept. 27th.—Sparks thrice a week, from the spine and paralyzed muscles.

Nov. 14th.—He has improved daily; and being now in possession of full power over the previously paralyzed limbs, he was this day presented cured.

J. Y., aged 15, admitted into the hospital in the middle of January 1837. Stated that sixteen months back he suffered from pain and swelling at the upper part of the neck: this was followed, in two months, by

ness of power over the right arm; for which he continued under treatment during nine months without deriving any benefit, so far as power over the paralyzed limb was concerned. It was then determined to try the effects of electricity; and in the middle of August twelve shocks were ordered to be passed from the region of the cervical vertebrae to the fingers of the right hand, daily.

Oct. 8th.—Has gradually improved, and has now considerable power over the affected limb.

20th.—Recovered completely the power of moving the arm; and was discharged, cured.

W. E., aged 30. This man had been employed in loading and unloading cargoes of coasting-vessels at one of the wharfs; and a few weeks ago, whilst unpacking salmon, the cold water from the melting ice burst from one of the packages and drenched him completely. He took no notice of this; but on the following day the little finger of his right hand became numb: this gradually increased; and in a week he lost all power over both hands, sensation remaining unaffected.

Oct. 19th, 1840. Sparks from the spine and the affected hands.

Under this treatment he rapidly improved; and after attending a few times, he became so much improved as to be enabled to return to his work.

The following case, recently under my care at Guy's Hospital, is a good illustration of rheumatic paraplegia thus treated; I give it in the words of my zealous clinical reporter, Mr. Hinton.

J. R., æt. 58, labourer, married; comes from the Hundreds of Kent; his work consists chiefly in cleaning out ditches, &c.: in his younger days he lived freely, but for many years past he has led a temperate and regular life; general health pretty good; he has had ague many years ago, and several fevers, doubtless of an intermittent character, as he has lived in the Hundreds for nearly forty years.

To his knowledge none of his relations were ever affected with paralysis; ten of his children have died, and several of them apparently with some phthisical affection. He has always noticed that his feet perspired very freely. In the latter part of the month of August last, he worked for three successive days in a ditch; during the whole of which he was knee deep in a running water, and from this time all signs of perspiration about the feet disappeared, and, to use his own expression, "he found it strike to his limbs." He soon perceived that he was gradually losing the power of motion in the lower extremities, chiefly the right, and his feet always felt cold. His general health, however, has not suffered.

He says that his legs feel very heavy, and he compares it to the having a great weight attached to each foot. The flexor tendons of the knee joint are somewhat tense, and he moves with great difficulty. There is slight loss of sensation, and a feeling of numbness. Urine is clear, of natural colour, unaltered by heat: he passes about Oijss. in 24 hours; sp. gr. 1011.

Treatment. — Balneum tepidum. H. Sennæ p. r. n. Middle diet.

Jan. 2d, 1847.—Since the bath he has felt easier on the whole, and can move the lower extremities more freely. He says his legs feel "all of a work." General health continues good.—Ictus elect. à spin. dors. ad pedes ter in hebdom.

7th.—Continues pretty well, and finds his legs much lighter; he moves more freely, and has perfect sensation; the feeling of numbness much diminished.

13th.—Continues to progress favourably; he now walks with a tolerably firm step without support of any kind; the legs are comparatively light. The right leg is decidedly the weaker. He feels the shock during the night.

20th. — Walks with tolerable freedom; occasional indecision of gait and power of motion; varies somewhat from day to day; general health continues good.

29th.—The paralysis appears cured: he walks freely; occasionally the right leg drags a little, and at times he feels it heavier than at others.

From this date he continued to improve, and was presented on the 9th February.

Paralysis of the portio dura is a not unfrequent affection, and probably bears considerable relation to the rheumatic paralysis which has just occupied our attention. It is unnecessary for me to allude to the importance of not committing the serious error of confounding this disease with paralysis depending upon cerebral lesion. It is impossible that any I have now the honour of addressing could ever fall into such a fearful error. Yet I dare say it has fallen to the lot of many of my auditors to be called to cases of this kind after the patient has been bled, cupped, blistered, mercurialised, and his health and constitutional power shattered by such unnecessary treatment; a treatment for which the most profound ignorance hardly affords an excuse. The history of the cases is sufficiently intelligible. A person previously in health exposes one side of the face to a little draught of air; as by sleeping near a window having a broken pane, or travelling in a railway carriage with a half open window. The result of this is more or less pain and stiffness in the side of the face, followed soon by paralysis of the facial nerve; the non-affected side being exceedingly distorted,

from the antagonist muscles becoming palsied. Sensation is never influenced, the affection being strictly and exclusively limited to the seventh pairs of nerves. When consulted early in the affection there may be some evidence of inflammatory irritation in the course of the *pes anserinus* and its branches, demanding appropriate treatment. Very soon, however, this irritation subsides, and, as is well known, the patient, if left alone, generally, with sufficient time recovers. Still, however, the convalescence involves much time, and in many instances months elapse ere the symmetry of the face is recovered. In such cases the stimulus of electricity remarkably aids the cure: I say the stimulus of electricity, because in such cases it appears pretty certain that the agent in question acts merely as a local excitant, stimulating the paralysed muscular fibres, and arousing their normal irritability, and once more placing them under the dominion of the will.

In these cases it scarcely matters what form of electricity is applied, so long as it is sufficiently effective to induce contraction of the paralysed muscles under its influence: weak shocks from a charged jar, the passage of a series of currents from an electro-magnetic machine, or the direct irritation produced by drawing a series of sparks from the cheek (when the patient is insulated and connected with the prime conductor of an electrical machine), seem to answer equally well. It is unnecessary for me to trouble you with any elaborate history of patients thus treated; a brief glance at two or three will be sufficient as an illustration of the subject.

A barrister, in large and influential practice, became the subject of paralysis of the portio dura on the left side, from exposing the cheek to a current of air from a broken window in a crowded court. He applied to me in a week or two afterwards, the paralysis continuing, and the distortion of the face hideous. As his general health was excellent, I ordered him to apply the currents of an electro-magnetic machine to the paralysed cheek for a few minutes daily; this was done for him by his servant, and in a fortnight all distortion vanished.

A young gentleman, 16 years of age, became paralysed from the influence of a draught of cold air on the cheek while asleep. I saw him two or three days afterwards: there was no local tenderness in the course of the *portio dura*, but the distortion was extreme. I requested his father, himself a zealous cultivator of physical science, to place him upon an insulated chair, and connecting him with the electrical machine, to draw sparks from the affected side; this was regularly done daily, and he rapidly recovered.

An instance lately occurred to me in the person of a clergyman, who had suffered from paralysis of the seventh pair of nerves a dozen years previously, and the paralysis had never completely disappeared; the face when I saw him was not symmetrical, the saliva often flowed from one corner of the mouth, and his intonation was impaired. He set sedulously to work with the electro-magnetic current, and I saw him some months afterwards perfectly restored.

In paralysis following local injury, the aid afforded by electricity depends upon the nature of the injury inflicted. If a blow, or other applied violence, has been sufficient to injure the structure of a nerve, no benefit can accrue, or, indeed, can be expected, from the use of electricity. But if, on the other hand, the paralysis has been merely the result of concussion of the nerves, &c. of some pressure which, although severe, did not disorganise the nervous fibres, the remedy in question is often of service. In such cases I would advise the application of electro-magnetism from the *single current machine* (described in my last lecture) to the paralysed limb, taking care to transmit it in the course of the *vis nervosa*, or, in other words, in the direction of the nervous ramifications. I think I have seen benefit thus obtained in the weak and feeble state of a limb following other forcible reductions of a dislocation; as of the head of the humerus into the axilla.

In hysterical paralysis, I feel a great difficulty in expressing an opinion regarding the remedial influence of electricity, in consequence of the nearly impracticable task of distinguishing between the mere assumption, and the reality, of existing paralysis in hysterical women. It is really difficult to believe, that girls and women, whose very means of living decently, much less the possession of the comforts of life, depend upon their being enabled to exert themselves, should simulate paralysis; and yet we know that such is too frequently the case. The morbid state of mind which predisposes to such impostures presents a curious enigma for solution. Admitting the existence of such cases of deception and imposture, we too often run the risk of becoming uncharitable, and to consider many forms of functional paralysis as purely simulative. It is not for me to enter into the interesting problems of the vagaries of such cases: I will content myself with pointing out the high importance of the electric shock, or interrupted current of an electro-magnetic machine, in such cases. If the patient simulates paralysis (and, when she does so, it much more usually is in the form of rigidity of a limb than any other) she can seldom resist the pain and surprise of the shock, and the previously rigid limb

will generally instantly move. On the other hand, in hysterical paralysis, where the affection, however excited at first, is now uninfluenced by the patient's will, there are few curative remedies as important as the electro-magnetic current. I have seen a young woman the subject of hysterical paraplegia for months, move the limbs and walk, although unsteadily, in an hour or two after the application of electricity; and very lately, another was in Guy's Hospital under my care with paralysis of the right arm, in which the same successful results occurred. In neither of these cases could I detect simulation, and not only was there no motive for it, but the interests and desires of the patients were opposed to it, for the paraplegic girl was prevented from becoming a wife by her paralysis, and the young woman with the palsied arm had an aged mother, to whom she appeared deeply attached, depending upon her exertions for her means of support.

In conclusion, I will trouble you with a few remarks, and they shall be very brief, in connection with paralysis dependent upon *positive organic lesion of the cerebral or spinal centres*. My experience in these affections, so far as their treatment by electricity is concerned, has been large; and without troubling you with details, the results may be stated in a few words:—

1st. When the lesion is recent, the cause producing the paralysis still active, electricity and its modifications not only do no good, but often do much mischief. I would give an especial caution where rigid arteries are known to exist, or ramollissement of brain suspected. In more than one example of these affections I have known a fatal apoplectic fit quickly follow the use of the remedy in question.

2dly. In paralysis accompanied by rigid flexure of the thumb or fingers, I have never seen electricity do any good.

3dly. In cases of paralysis depending upon some physical cause, as effusion or pressure from other sources, when the original cause has been removed by time or treatment, or both, the palsy remaining; electricity, and especially the electro-magnetic form of it, is of the utmost value. These cases are certainly not uncommon, and to them the old adage of "*sublata causa, tollitur effectus*," does not by any means apply. A patient has, for example, congestion, influencing chiefly one side of the brain: the arm, or leg, or both, become paralysed. After some time the circulation is equalised, the pressure is removed, and the paralysis, if the case be recent, disappears. If, however, the congestion has been of longer duration, the palsy does not disappear with the removal of the exciting causes, and then the passage of the single electro-magnetic current in the course of

the nervous ramifications becomes invaluable. Often in a few days the patient recovers his power. In such cases of chronic paralysis, let me beg of you not to give up the electrical treatment too soon. Remember, that if the paralysis be long continued, some of the new tissue deposited in the palsied muscles, in accordance with the recognised laws of nutrition, has never contracted or moved under the influence of the will, and a patient's persistence in the electrical treatment will be necessary before the new fibres become roused into obedience to the *vis nervosa* propagated along the nerves by the volition of the patient.

I have thus pointed out the results of some of our clinical experience in the application of electricity to medicine; and, had time permitted, I should have been happy to have done more, and alluded to other affections in which this remedy has been employed, but I dare not trespass further upon your kindness and forbearance.

But one duty now remains—that of taking my leave; and in bringing this, my prescribed task, to a conclusion, permit me to offer my thanks for the kind and patient attention with which these crude effusions have been received. Allow me, moreover, to offer an apology for the imperfect nature of many of the illustrations I have used, and to plead in excuse the harassing nature of the duties devolving upon me during the medical session. Permit me to assure you, that I have deeply felt the responsibility attached to the high honour of addressing you in this theatre, and whatever may occur to me in the too often chequered path of professional life, I shall always look back upon having been called upon to deliver these lectures as one of the highest honours that could have been conferred upon me by the College.

THE KING'S COLLEGE HOSPITAL.

THE eighth anniversary festival in aid of the funds of this institution took place in Stationers' Hall, on Wednesday, the 9th inst., Sir R. Peel acting as President on the occasion. The attendance was most numerous, nearly 300 being seated at the tables, and the enthusiastic reception of the right hon. baronet on entering the dining hall, and throughout the evening, may truly be said to have been as complimentary to the chairman as his presence and advocacy proved beneficial to the charity.

In the course of the evening Mr. Alderman Copeland, the Treasurer, read a list of subscriptions, which amounted to the large sum of nearly £1,700, the Chairman contributing £100.

CLINICAL LECTURE
ON A
CASE OF CHRONIC GOUT, ACCOMPANIED WITH ALBUMINOUS URINE,

*Delivered at King's College Hospital,
in June, 1846,*

By DR. TODD.

THE case which I propose to comment on to-day, is singularly illustrative of the pathology of gout, and exhibits many points of extreme practical interest, highly deserving of the attention of those who study the practice of medicine with a proper desire to discover the real nature of the various morbid processes which are ever coming under observation.

A knowledge of the real nature of gout, and of its kindred malady, Rheumatism, is, in my opinion, at the very foundation of all sound pathology. I am therefore glad to have an opportunity of calling your attention to a case, in which the seeds of disease have been sown most extensively, and have taken deep root in nearly every situation.

Eliza Rapley, æt. 40, admitted June 5, 1846: married, and had two children, the last being now 15 years of age. Latterly she has led a very irregular and intemperate life, and has been a prostitute. She states that she never enjoyed good health, and has especially suffered from repeated attacks of rheumatic gout, affecting all her joints, large and small. These were no doubt increased in frequency and severity by her habits of intemperance.

Three months ago she had her last attack of rheumatic gout. Shortly after this she observed her legs beginning to swell, as well as her abdomen. The swellings having increased very much, she sought and obtained admission into the hospital.

Her appearance was strikingly indicative of that extreme disturbance of the general health and constitution which is always produced by the long continuance of gout in the system. There was an unhealthy sallow hue, with an anxious expression of countenance. Her eyelids were swollen, as also her cheeks: the facial dropsy, although sufficiently distinct, was not excessive. Her feet and legs were also oedematous, and pitted distinctly on pressure.

There was considerable swelling of both knee-joints, caused evidently by an effusion of fluid into them distending their capsules. The patient complained very much of pain in both of these joints, especially the right, which was the most swollen.

Most of the small joints were swollen from old attacks of gout, the swelling apparently

being due to a thickening of the fibrous tissue;—some of them grated on moving the surfaces upon each other, indicating the probable absorption of their cartilages, and the deposition of lithate of soda in their place.

You will remember that I stated more than once, at the patient's bedside, that I thought it highly probable that a similar change—namely, absorption of the articular cartilages and deposition of lithate of soda, had taken place in the knee-joints; and that the articular surfaces of the femur, tibia, and patella on each side, would be found thus affected.

The abdomen was not enlarged, nor dropsical. There was no evidence of enlargement of the liver. On the contrary, everything favoured the opinion that that organ was in some degree contracted: the intemperate habits of the patient, the sallow hue of her skin, a slight distention of the abdominal veins, and the absence of dullness on percussion over the hepatic region, all indicated the early stage of cirrhosis of the liver, and justified our expecting abdominal dropsy if it proceeded further.

The heart was likewise evidently affected. We had proof of this in the augmented impulse of the organ, and the increase of dullness in the cardiac region; and on placing the stethoscope over the heart's apex, a loud bellows sound was heard synchronous with the systole of the ventricle. To the right of the heart's apex, and along the aorta, this sound became less distinct, and vanished altogether as the stethoscope was passed up the aorta. It was, however, very audible beneath the angle of the left scapula. The pulse was small and weak, and its frequency 100. The signs indicated some hypertrophy and dilatation of the left ventricle, with imperfection of the mitral valves.

The urine was not materially altered in quantity, sometimes below, sometimes above the normal amount: its specific gravity was 1012: it was clear, and pale. By heat and nitric acid it yielded a slight precipitate of albumen.

What is the state of kidney which produces this condition of urine? Some would answer, an advanced stage of Bright's disease. Such, however, is not the case, in my opinion. I do not believe that the woman ever had Bright's disease. The history of the case does not conform to the ordinary course of things in that disease. Her aspect is quite different from that in Bright's disease; the dropsy is not so general—there has been no great frequency of micturition. On the other hand, her extreme gouty state of constitution led me to think that she had got a contracted and shrivelled state of kidney, in which a large portion of the organ appears to be wasted and its structure apparently con-

densed—a condition which, while it may also occur in other states of system, is peculiarly apt to be developed in the inveterate gouty diathesis.

The first case of this kind which arrested my attention (although I did not perfectly understand its nature at that time), occurred to me five years ago. The patient had been a gentleman's butler, and had had several attacks of gout. He had a sallow, unhealthy look; and the only appearance of dropsy about him on his admission, was a copious effusion into one knee-joint. His urine was sufficiently copious, quite clear and pale, and contained a small quantity of albumen. This patient died suddenly, and we found a copious effusion of fluid in one pleura, which must have taken place a few hours before death: and both kidneys were much contracted, shrunk, and granulated upon their surface, presenting all the characters of what has been described as the third stage of Bright's disease.

Not many weeks ago we had a man in Sutherland ward, whom most of you may remember, the subject of chronic gout affecting the knees and ankles and the plantar fascia. This man had the same sallow unhealthy look which this woman presented. His urine was slightly albuminous, but copious, pale, and of low specific gravity. There was no dropsy in this case. I have no doubt that the same state of kidney existed here as in the case which we are now considering. The patient got better, and left the hospital.

In reviewing the case of Rapley, it would appear that she has been the subject of chronic gout, or what some would call rheumatic gout, and that her joints, large and small, have all been more or less damaged by the disease; that her heart is affected, her liver probably contracted, and her kidneys likewise. How strikingly do these consequences of the long continuance of the malady comport with the humoral view of the pathology of this disease! Not only are those parts which the morbid matter of gout is most prone to affect materially damaged, but likewise the excretories through which the poison would make its escape out of the system—the liver and kidneys: these organs have become poisoned by the morbid matters which have escaped or tried to make their escape from the system through them, and therefore it is natural to expect a considerable change in their nutrition.

The treatment adopted in Eliza Rapley's case, immediately after her admission, consisted in the application of a blister to the right knee, which was most swollen, mild purgatives, and a bitter tonic (*Inf. Quassie*) with ammonia.

On the 19th of June it was reported that he had improved considerably; the swellings

had been much reduced, the urine was natural in quantity, slightly acid, sp. gr. 1010, without sediment, and it contained a small quantity of albumen.

On the 20th of June there was a sudden decrease in the quantity of the urine, and on that day she was seized with a fit of epileptic character, inducing loss of consciousness and convulsions: the fit lasted some minutes, and on coming out of it she continued in a stupid drowsy state for some time. The small quantity of urine passed was not kept for examination. A mustard poultice was applied to the back of her neck, and this was succeeded by a blister.

On the 21st, at 2 o'clock in the afternoon, she had another fit, more severe than the last. In it she was much convulsed, and bit her tongue severely. The fit lasted a quarter of an hour, during which time she was so unconscious that on her recovery she was not aware that she had had a fit. Her water and motions are passed involuntarily.

On the 22d it was reported that she had two severe fits since the preceding day. She complained of occasional severe lancinating pains in the abdomen. There was some dyspnoea. Respirations 20; pulse 112. She has been very delirious. Micturition very defective. Next day she died.

This is a common mode of termination for those diseases of the kidney which either by encroaching on its proper structure, or by any other means, materially diminish its secreting power; and the most probable explanation of the phenomenon is furnished by the fact, that as the proper constituents of the urine are not duly eliminated, they accumulate in the blood, and occasion irritation of the brain, and epilepsy and delirium.

The *post-mortem* examination presented many points of extreme interest.

The heart was somewhat increased in size, from slight hypertrophy and dilatation of both ventricles. This morbid state of it was due to the imperfection of the mitral valve caused by deposits upon its margin, which prevented its perfect closure. It was the regurgitation through this orifice, which remained open during systole, that occasioned the bellows murmur heard with the first sound of the heart.

The liver was hardened and condensed in structure, and somewhat reduced in size. Its secreting lobules were not materially altered, but the capsule of Glisson, on the external surface of the gland, as well as the prolongation of it into the portal canals, was much denser and thicker than natural. This tissue seemed to have been the seat of a morbid process, which probably was produced partly by the intemperate habits of the patient, but partly likewise by the share which the liver had in the elimination of the morbid poisons.

The most interesting morbid changes, however, were found in the kidney and in the joints.

The kidneys were very much contracted in size; they retained hardly, indeed, so much as one-third of their natural dimensions. They had upon their surface a shrivelled granular appearance. The capsule appeared denser and whiter than is natural, and separated with great facility from the surface of the gland. On cutting into the kidney it appeared that the decrease in its size was at the expense chiefly of the cortical substance, two-thirds of which must have disappeared. The cut surface had much the same granular appearance as the external surface of the gland.

Upon examining portions of these kidneys under the microscope, I found several tubes much dilated, and furnished very scantily with epithelium; others were completely empty; and others, again, collapsed and folded into fine plaits, which gave them the appearance of fascicles of fibrous tissue. A transverse section served to display very well the dilated tubes, shewing likewise how small was the quantity of contained epithelium, and how little interlobular tissue there was likewise. Here and there a tube contained at one point, at the bend of a convolution, a few epithelial cells filled with fat; these were, however, few in number, and in many parts the tubes appeared healthy. Those in the pyramids were for the most part healthy.

These appearances are distinctly indicative of a wasting or atrophy of the gland. Many of the bloodvessels are obliterated; the portions of the gland which these supply waste; the epithelium in them is formed scantily, or not at all; the tubes collapse and are folded into plaits, giving the appearance of newly developed fibrous tissue.

Such a condition, one may readily conceive, may be easily produced by a tainted nutrition: the blood charged with the morbid matter or poison of gout furnishes to the glands an unhealthy pabulum, which while it undergoes changes analogous to those which occur in healthy nutrition, experiences these changes in a very imperfect and insufficient way to develop the healthy tissue of the gland. The contraction and shrinking of the kidney is sufficiently explained by this hypothesis. When much of the vascular system of the gland has been obliterated, partial congestions take place as a necessary consequence. Some of the Malpighian bodies would contain too much blood, while others would be imperfectly supplied with it. From those which are too full, effusion of serum would take place into the uriniferous tubes, furnishing the small amount of albumen which is found in the urine. Lastly, the small quantity of epithe-

lium which is formed in the gland indicates a very defective elimination of the urea and uric acid. Hence the urine in these cases is pale and of low specific gravity, and contains these products in very limited quantity.

To this state of kidney I would give the name of "the gouty kidney." To what extent the changes which have taken place in it are due to inflammation, or how far simple inflammation, untainted by any morbid matter in the blood, is capable of producing similar alterations, I do not undertake at present to decide. Rayser has recognized the small and contracted kidney as the result of chronic inflammation, and it has been viewed in this country chiefly as the last stage of Bright's disease. This latter interpretation of it, I now feel convinced, must be erroneous. Our friend Dr. Johnson is engaged upon the examination of the anatomy and the diagnosis of these affections of the kidney, and I look forward with interest to his being able to clear up many obscure and doubtful points in their clinical history and pathology.

As to the diagnosis of this disease, we may gather the principal points which may assist us, from the history of this and the other case to which I have referred.

The patient is evidently of gouty habit, as evinced by general signs and by his family history, by his habits of living, and by his having had, to a greater or less extent, attacks of gout in his limbs. There is more or less of dropsy, although this is by no means a necessary symptom, nor is the dropsy so general nor so great as in Bright's disease. The quantity of urine is not diminished; on the contrary it is either normal or increased, and it is pale, of low specific gravity, and deficient in the organic principles, whilst it contains albumen in *small quantity*. The continued absence of epithelial cells filled with fat, from the urine, would afford some negative evidence to prove that the disease is not Bright's disease; at the same time that the occasional occurrence of some particles of fatty epithelium in the urine would not prove that the disease was of that nature, as we know that fatty epithelium does exist, although in very limited quantity, in parts of these kidneys.

Let me conclude by directing your attention to the state of the joints, which is not unlike that of the kidneys.

During the life of our patient, the knee-joints were distended with synovia; they continued in this state till death. A large quantity of this fluid, presenting its usual viscid character, escaped when the joints were laid open. Litmus paper was strongly reddened by it, proving an acid instead of its normal alkaline state. This I have found in several cases of the same kind. Both in gout and in rheumatic fever the synovia of the joints becomes acid.

The synovial membrane lining the ligaments of the joints and the synovial fringes were very red, from an undue degree of vascularity. Here and there it was sprinkled over by a fine white powder, which adhered to it. The articular cartilage had entirely disappeared, and a layer of white matter, like plaister of Paris, had usurped their places: the articular surfaces of both tibia and femur, and even of the patella, were covered with this substance. From the examination of it in similar cases, we presumed this to be the well-known lithate of soda, combined with phosphate and carbonate of lime. It was easy to understand from such a state of the articular textures as this, how the bones grated on each other as the joint was moved. It may be observed, that in this case there was no accumulation of lithate of soda within the joint or on its exterior, or in the sheaths of tendons in its vicinity. Both knee-joints exhibited these appearances, but they were much more strongly marked in the left joint. All the other joints examined were similarly affected, namely the shoulders, hips, elbows, and even the sternoclavicular joints, those of the left side being always worse than those of the right. Some of the phalangeal joints of the fingers and toes had suffered in the same way.

This curious state of the articulations suggests many reflections which I have not time to dilate upon at present. Let me, however, content myself with remarking how prone the morbid deposit has been to attack the cartilages of the joints, the nutrition of which it seems to have completely destroyed; how sparingly (comparatively) it touched the synovial membrane which lined the ligamentous surfaces, and how much it kept aloof from the more superficial textures in the vicinity of the joints. In other cases we would find it in the sheaths of the tendons and under the integuments, but interfering slightly with the articular surfaces.

With regard to the immediate cause of death in this case, it seems quite clear that the event was brought on by the same cause which gave rise to the paroxysms of epilepsy, and as the patient had not been epileptic previously, some new cause must have arisen to produce these fits. This was to be found in the deficiency of the urinary secretion, which had almost ceased immediately prior to the first epileptic seizure. The retention and accumulation of urea and other elements of the urine in the blood in an already much vitiated state of that fluid, was quite sufficient to create the irritation of the brain on which these fits depended. And in the wasted and atrophic state of the kidneys which we have described, was it to be wondered at that the urinary secretion should have failed?

How little was then to be done by treat-

ment in such a case as this! In the early periods, to support strength, and to open the skin and bowels, as far as could be done with safety, were the obvious means. But when the kidneys failed—and such kidneys—what could we do? To open a vesicated surface on the back of the neck or on the head might relieve the cerebral circulation of some of the noxious material circulating in it, and so postpone the evil day for a very brief space. To establish any abundant discharge through some other emunctory would be obviously indicated, and would be useful where sufficient strength existed; hence we would have recourse to purging, sweating, or free dilution, whereby not only might the noxious matter be diluted, but some of the fluid, ready to escape through various outlets, might find its way to the kidneys, and re-establish a little action of those organs.

Shortly after this lecture was delivered, I received a kidney from my friend Mr. Robert Cooley, of Aylesbury, taken from an extremely gouty subject. This kidney was in every respect similarly wasted and contracted like that described in the lecture, but, in addition, there were deposits of lithate of soda in the uriniferous tubes of many of the cones. The particles of the salt were readily recognized by their peculiar processes (needles) which seem to radiate from a central mass: these are well figured in Dr. Golding Bird's book. They filled up parts of some of the tubes, and here and there lay loose among the particles of the epithelium, some of which contained oil in considerable quantity.

Mr. Cooley informed me that this patient's urine was albuminous, lately scanty but not high coloured, and he had incipient edema of the right leg. He was carried off by cholera, which was then prevalent in the neighbourhood. The articulations were loaded with chalky deposits, and the cartilages replaced by the earthy indurium, just as in the case described in the lecture. There was also the contracted state of liver.

SMALL-POX PUSTULE.

THE utility of the application of mercurial ointment or plaster, as a means of producing the abortion of the small-pox pustule, and thus preventing pitting and diminishing the danger of the disease, is confirmed by the experience of MM. Goblin, Charcellay, and Briquet; and M. Thielmann and Dr. Panck state that they have obtained equally favourable results from the frequent use of a solution of the corrosive sublimate. M. Thielmann employed it of the strength of gr. j. to ʒij. Dr. Panck used it of about half that strength.—*Dr. West's Report on Midwifery, 1845-6.*

Original Communications.

ON THE
INHALATION OF THE VAPOUR OF
SULPHURIC ETHER,

AS A CURATIVE MEANS IN SOME
OPHTHALMIA.

By WILLIAM MACKENZIE, M.D.
Glasgow.

ANY experience I have had in the use of the vapour of sulphuric ether, for preventing pain during surgical operations, has been very limited, having employed it only in a case of artificial pupil, one of strabismus, one of amputation below the knee, and one of encysted tumor in the orbit. In all four, but especially in the amputation, the sedative and anodyne effects of the vapour were sufficiently striking, and no bad consequences followed its use.

Soon after witnessing the power of the vapour of sulphuric ether, taken into the lungs, in preventing the pain of surgical operations, it occurred to me that it was worthy of a trial, whether the same application might not prove useful in quelling painful diseases. I accordingly ordered it to be employed at the Eye Infirmary, and gave it a trial in my private practice, in a variety of eye-diseases, and with results so satisfactory as tempt me to lay this notice of them before your readers. The diseases, in which I have prescribed the inhalation of the vapour of sulphuric ether, as a therapeutical agent, are scrofulous ophthalmia, corneitis, sympathetic ophthalmitis, neuralgia affecting branches of the fifth nerve, and asthenopia. In all these diseases, some benefit was obtained; chiefly, however, in the first three, of which, therefore, I proceed to give examples.

CASE I.—*Scrofulous conjunctivitis—great intolerance of light—frequent relapses—permanent benefit from the inhalation of the vapour of sulphuric ether—supervention of phthisis.*

Sarah Phillips, aged 14, was admitted an out-patient at the Glasgow Eye Infirmary, (No. 16, 154,) on Dec. 22d, 1846, on account of scrofulous ophthalmia of three months' standing,

accompanied with much intolerance of light.

The remedies employed were an ipecacuan emetic, a powder each night containing one-third of a grain of tartrate of antimony and five grains of rhubarb, the extract of belladonna smeared on the eyelids, a collyrium containing muriate of mercury with extract of belladonna, red precipitate salve to the edges of the eyelids at bedtime, and blisters behind the ears. She was reported on the 27th December as considerably improved. On the 4th of January, 1847, the inflammation being all but gone, the laxative powders were omitted, the blisters repeated, and she was ordered a grain of sulphate of quina thrice a day. On the 10th she was still improving, and on the 14th the inflammation was reported to be gone.

On the 28th one of the relapses took place so common in scrofulous ophthalmia, and the tongue was furred. The emetic was therefore repeated, and the quinine omitted. On the 6th of February the laxative powders were repeated, and a solution of four grains of nitrate of silver to the ounce of distilled water was dropped upon the eyes. By the 10th, the inflammation had again abated. Two leeches were applied to the neighbourhood of the inner angle of each eye on the 15th, and on the 16th the blisters were again repeated. On the 21st, she opened her eyes more freely; but by the 6th of March, another relapse had occurred, and the eyes were very intolerant of light. She was ordered to inhale the vapour of sulphuric ether.

After inhaling the ether for about a minute and a half from Mr. Foulds's pocket inhaler, the muscular system became relaxed, and insensibility was all but induced. She continued in this condition for nearly the same period of time, manifesting symptoms of intoxication. On her recovering, it was evident that the intolerance of light was much less; she expressed herself as being considerably relieved, and without assistance walked from the fire-place in the consulting-room to the waiting-room below. This circumstance was the more striking, as, from the severe intolerance of light, she had that day, and for ten or twelve days previously, required to be led to and from the Infirmary. She remained

nearly an hour in the waiting-room, during which time the intolerance had not returned, and then walked home, to the amazement of her guide, with her eyes open.

On the 9th, the intolerance of light continued much abated. The laxative powders were stopped, and the quinine repeated. On the 14th, she was much improved, so that she could come to the Infirmary, and return home, alone. On the 25th the inhalation was repeated.

On the 8th of May, the report entered in the journal states, that she has been confined at home on account of a burn of the foot. Is now affected with cough, and much reduced in flesh and strength. She was visited by Mr. Douglas, the house-surgeon, who found her labouring under phthisis. The eyes continue well, the intolerance of light never having returned.

CASE II.—*Severe corneitis of both eyes, brought on by the staring enjoined on the patient during attempts to mesmerise her—intolerance of light and opacity of the cornea greatly relieved by the inhalation of the vapour of sulphuric ether.*

Agnes Campbell, aged 14, was admitted an out-patient at the Glasgow Eye Infirmary, (No. 16,282.) on the 3d of March, 1847. Had been a patient in the Royal Infirmary for caries of both tibiae, and left it on the 10th of January; three weeks before which date, after having been attempted to be mesmerised by some (she says) unauthorised individual, first her left eye, and then her right, became affected with severe inflammation. This was attributed to the staring enjoined on her during the attempts to mesmerise her. Both corneae are exceedingly opaque, and the right vascular, and somewhat flattened. Vision is limited at present to a perception of light and shade; tongue clean; appetite good; has a blister discharging on the back of the neck; mouth is recovering from a course of mercury. The extract of belladonna was smeared on the eyelids, and she was ordered to take a grain of sulphate of quina thrice a day.

On the 7th, the intolerance of light being very great, with pain above the right eye, she was ordered to inhale the vapour of sulphuric ether.

On the 9th, it is reported that the intolerance of light was considerably abated during the afternoon of the 7th. To-day, complains more of pain of the right eye. Left eye rather better.

11th.—Upper part of right cornea rather clearer; left eye less red.—Inhalation repeated.

16th.—Inhaled the ether on the 11th for about two minutes and a half, when she became insensible, in which state she remained fully seven minutes. After this she could open her eyes, and looked freely about her, distinguishing various articles of furniture in the room.—Inhalation repeated.

20th.—Intolerance of light much abated. Both corneae rather clearer.

23d.—Continues better.—Quinine and belladonna continued.

25th.—Inhalation repeated.

28th.—Corneae continue to clear.

April 4th.—Corneae still clearer, particularly round their margins.

12th.—To use a belladonna collyrium.

15th.—Inhalation repeated.

May 7th.—Right pupil begins to be discernible; left cornea considerably clearer; so that with this eye she distinguishes figures an inch long.

The above was about as bad a case of corneitis as I have ever seen. The partial recovery which has taken place, and which it is to be hoped will still advance, appeared attributable almost entirely to the inhalation of the vapour of sulphuric ether.

CASE III.—*Wound at junction of left cornea and sclerotica—Dragging of iris—Sympathetic inflammation of right eye—Great intolerance of light—Permanent relief from the inhalation of the vapour of sulphuric ether.*

William Hendry, aged 19, a miner, applied to me on the 10th of February, 1847. Seven weeks before that date, his left eye had been wounded by a bit of iron-stone at the inner lower edge of the cornea. The iris and pupil were dragged in the direction of the wound. Seven days before calling on me, his right eye had become sympathetically inflamed. He had been bled at the arm, with relief to the pain of his eye and head. The eyelids were now smeared with extract of belladonna. He was ordered two grains of calomel with half a grain of opium every eight

hours. Antimonial plasters were applied behind the ears.

14th.—Three leeches were applied near the inner angle of each eye.

16th.—The mouth being somewhat affected, one dose of the calomel and opium was ordered once a day only.

22d.—The calomel and opium were omitted. From this date till the beginning of April no improvement took place. The conjunctivæ became more inflamed, and secreted large flakes of puriform mucus. The left pupil became quite opaque, and much contracted; the right pupil became irregular, and fringed with pigmentum nigrum, and the capsule nebulous. The intolerance of light was so great that he was obliged to be led through the streets.

May 10th.—Has inhaled the vapour of sulphuric ether eight times since the beginning of April. On all occasions the inhalation was stopped as soon as the patient began to be insensible, and renewed as soon as he recovered; except on one occasion, when he was kept for about two minutes, or rather more, in the insensible state. The inhalation has afforded great relief to the pain, redness, and intolerance. He now opens the eyes freely, and finds the vision of the right eye greatly improved. Distinguishes a pen, key, &c., and can tell a sixpence from a shilling. Says nothing did him any good till the ether was tried.

This is a gratifying example of decided mitigation of a disease, which generally proves intractable under the usual means of cure.

Some time after I had commenced the use of the vapour of sulphuric ether, taken into the lungs, as a therapeutical agent, I was favoured with a pamphlet from Brussels, by M. I. Alex, entitled "Notice sur l'Emploi de la Vapeur d'Ether, comme moyen d'anéantir la douleur pendant les Opérations Chirurgicales," in which several interesting cases are given which occurred in the practice of Dr. Cunier; and, amongst these, one in which the photophobia and blepharospasm attendant on chronic scrofulous ophthalmia were immediately removed by the inhalation of the vapour of sulphuric ether. This case, as well as the three which I have related above, proving the beneficial influence of the inhala-

tion of the vapour of sulphuric ether in different kinds of ophthalmia, and especially over one of the most distressing and troublesome symptoms—intolerance of light,—will, I trust, lead others entrusted with the care of eye diseases to make a trial of it, and to favour the profession with the results.

Glasgow, 12th May, 1847.

ON
IMPETIGO CAPITIS, OR CRUSTA
LACTEA.

By F. RICHARDSON, Esq., M.R.C.S.,
&c., &c.

IN a recent number of your valuable periodical, are some excellent practical remarks upon this subject from the pen of Mr. Grantham, of Crayford, Kent. Living more than one hundred miles apart, and entirely unknown to that gentleman, I have much pleasure in confirming the opinions expressed in his letter, which exactly coincide with my own experience of that *intractable* disorder; *intractable* only because not rightly understood, a symptom generally being mistaken for the disease itself.

Mr. Grantham observes: "My object will be to shew the connexion existing between *impetigo capitis* and an *anæmiated condition of the spinal chord*: in doing which, I must guard myself against an injustice which is often done to authors in supposing they generalize from a mere isolated case; I claim a patient investigation into the present facts." And as these "facts" are so strictly in accordance with what I have witnessed daily for nearly twenty years, although, to the best of my knowledge, hitherto unrecorded, it may not be amiss to repeat them in Mr. Grantham's own words. "The first symptom is the child passing an increased quantity of pale-coloured urine of a low specific gravity, which, sooner or later, will contain an undue proportion of the phosphates. During this early stage the child is frequently sick after taking its food, and to the parent there appears no visible indication of disease so as to excite attention, the child thriving, or apparently so doing, until some of the eruption make its appearance; then, and only then, all attention is

directed to the eruptive disease, which is the source of much anxiety to the mother; debility supervenes, which is first noticed by weakness of the spinal column, a posterior curve between the ninth dorsal and third upper lumbar vertebræ. Should the primary cause not be arrested, the patient will shew further proofs of weakness by a falling of the head upon the shoulders; and now the attention of the practitioner is for the first time directed to the spinal system of nerves."

The above description is evidently portrayed by a man of accurate observation; in some cases (I should say in most) that have fallen under my notice, the cervical portion of the spinal column has appeared to suffer most, the neck being shortened, probably from some absorption of the cartilages, the head always inclining to the right shoulder.

There can be no doubt that the majority of these cases arise from confinement, during many hours of the day, in an impure atmosphere; many of the cases occurring at the age of 5 or 6, when children leave the parental roof for the first time, and are confined in a school-room, often ill suited for the purpose, with a number of other children, breathing the same air over and over again for a period of three hours at a time, or five to six hours daily. Until the subject of ventilation is better understood, such must invariably be the result of collecting twenty or thirty children together in a room only calculated for six or eight; that such is the opinion of the author of the paper from which I have so largely quoted, may be gathered from his concluding remark: "I cannot," says he, "too strongly urge the necessity for removing such patients from damp and thickly crowded places to high and dry localities." This, I believe, is the best plan that can be adopted with very young children, but when they are ten years old and upwards, the most beneficial results will follow the practice of athletic exercises in the open air, bathing, &c., with good nourishing diet. It becomes a question whether impetigo is "contagious." That it originates, and is only a symptom of spinal and general debility, there can be no doubt; but it is generally supposed to be "contagious," and I think there is quite sufficient proof that, under these cir-

cumstances, it is so. I have known only one in a family afflicted with *spinal curvature* and the *crusta lactea*; yet every member of the family in turn (including servants) has contracted the eruption, evidently from contact: in these cases it is easily cured by the application of Cerat. Plumb. Comp. for three or four nights; but not so easily the primary one,—this must be a matter of time, but, if properly understood, we may as certainly predict a cure in a few weeks as in any other complaint.

Cheltenham, May 1847.

PHARMACEUTICAL NOMENCLATURE.

DR. CASPER has given the following summary of the various names under which white precipitate (ammonio-chloride of mercury) is known throughout Europe. That there should be occasional poisoning in prescribing pharmaceutical compounds known under such a variety of names, is not at all surprising.

PRUSSIA.—Hydrargyrum amidato-bichloratum.

SCHLESWIG-HOLSTEIN. — Hydrochloras hydrargyricus cum oxido-hydrargyrico ammoniato.

HANOVER.—Hydrarg. Ammoniatio-muriaticum.

HAMBURG.—Hydrochloretum ammonii cum oxydo hydrargyri.

SAXONY.—Ammonium muriaticum hydrargyrum.

AUSTRIA.—Mercurius hydrargyro-ammoniacalis insolubilis.

SWEDEN.—Submurius ammoniaco-hydrargyricus.

RUSSIA.—Hydrochloras ammoniæ cum binoxydo hydrargyri.

FRANCE.—Oxychloruretum hydrargyri ammoniacale.

GREECE.—Murius oxydi hydrargyri ammoniacalis.

UNITED STATES.—Hydrargyrum ammoniatum.

To this list we can add a few others:—

IRELAND.—Hydrargyri submurius ammoniatum.

SCOTLAND.—Hydrargyrum precipitatum album.

ENGLAND.—Hydrargyri ammonio chloridum.

It is clear that chemical theories cannot settle the name of this unfortunate compound: hence the old name of white precipitate (mercurius precipitatus albus, P. L. 1745) is preferable, because it is not only simple, but such as to prevent the possibility of mistake.

MEDICAL GAZETTE.

FRIDAY, JUNE 18, 1847.

IN our last number, we published a long extract from Dr. McWilliam's report, the object of which was to show how and in what manner the inhabitants of Bona Vista were brought into communication with the crew of the *Eclair*. It has been strongly denied that the fever in the island was occasioned by intercourse with the *Eclair*; and it has been asserted that the attacks (of fever) among the inhabitants of the island did not appear to have taken place till a *month* after the departure of the *Eclair*. Having proved that intercourse existed, it will be necessary for us to show, from the facts contained in the Report, in what way the disease became diffused through the island. If it were true that no case of fever had shown itself until a *month* after the departure of the *Eclair*, it might be somewhat difficult to explain the connexion between the arrival of the ship and the appearance of the malady:—but we must confess our surprise that such a statement should be hazarded by a person of authority, in the very teeth of a report on which he was passing an official judgment.

If our readers will turn to page 1041 of our last number, they will find in the extract from Dr. McWilliam's report, that the corporal of the third guard was attacked with the fever (on Sept. 14,) only the *day* after the *Eclair* sailed, and died in three days, delirious, and vomiting a black fluid. A European private under him was attacked on the 15th of September, and died, under similar symptoms, on the fourth day. They were seen and attended by a regular physician, Dr. Almeida; and two privates, Pedro Manoel, and Mi-

guel Barbosa, both negroes, were also in attendance on them during their illness. It is necessary that this should be borne in mind; for, as we shall presently see, the fever was conveyed by these two men to the inhabitants of the island. Other cases might be adduced, but these are sufficient to prove that within the short period of *two days* after the sailing of the *Eclair*, two individuals, who were at the fort several days both before and after its evacuation by the sick crew, were seized with the fever in a clear and unmistakable form, and died from its effects! We are, therefore, perfectly at a loss to understand what is intended by the statement made by Sir William Burnett, when he says—the "attacks do not appear to have taken place till a *month* after the departure of the *Eclair*!" Having thus disposed of what might appear a difficulty to those who had not seen the Report itself, we proceed to trace the course of the disease among the inhabitants. We ask our readers to consider dispassionately, irrespective of all previous notions of quarantine and contagion, the melancholy details here laid before them. The case of Mr. Pettingal and his family realizes some of the horrors of the great plague of London in 1665. Such cases have become matters of history, and are now seldom found in medical records.

The report continues:—"It will be recollected that Miguel Barbosa and Pedro Manoel, the negro soldiers, were, as a matter of precaution, on their return from the Fort, placed in a house in Pao de Varela, instead of being sent to their quarters in Porto Sal Rey.* It is of the greatest importance that every circumstance connected with their stay here be carefully noted, as it afterwards turned out that the very first case of fever in the town appeared in the room adjoining that in which the soldiers were lodged. The

* See our last Number, page 1060.

houses in the Beira Row are divided by rough double partitions. The uppermost was occupied by a mulatto native woman of the name of Theresa Maria Jezus; the next by the two soldiers; the next to that by a Portuguese woman, called Anna Gallinha, and a native woman named Anna Texeira; and the other by a Portuguese man called Jose Carlos da Lisboa, a writer. The soldiers remained at the house in Beira about eight days, and during this time they had many visitors. They were not laid up; but it is evident that they had the germs of fever in them by the symptoms alone which were manifest while they were there, independent of the fact of their being both soon after attacked with fever. Both of them declare that they brought nothing from the fort, except the clothes they had on their backs, and a Portuguese flag.

"Their clothes were taken by the wife of Silvester Jose Romess, a negro mason, to be washed. Silvester himself had also been a visitor of the soldiers when in the house at Beira; he had never been on board the "Eclair" or at the fort, but was attacked with fever soon after the soldiers returned to the barracks, as were also his daughter, niece, and wife, but the latter not until the fever had become general in the town. Anna Gallinha and Joanna Texeira, who were next-door neighbours to the soldiers, were constantly with them, and the former cooked their victuals. Anna Gallinha was attacked with fever in the course of three or four days after the soldiers left Beira, and died with high fever, delirium, and black vomit. It is not easy to ascertain dates with precision, but it is probable that this woman was taken ill on the 12th, and died on the 16th October.

"A mulatto native called Manoel Affonso, who lived about twenty yards from Anna Gallinha's house, was taken ill with fever about the same time, and died on the 18th October; *this man had not been on board the "Eclair," nor on the small island while the crew were there*, but he was very strongly suspected of having had a blanket and rug from the "Eclair" in his possession. By the evidence of John Jamieson he had been a visitor of Anna Gallinha during her illness, but *this was denied to me by the widow of*

Affonso. Gertrude Bent, a native mulatto woman, who had visited both Anna Gallinha and Manoel Affonso, and lived next door to the latter, was attacked with fever the day after Affonso's death, and died with the same symptoms as Anna Gallinha. A man called Antonio Pellica, who arrived at Bona Vista, from Madeira, a few days after the departure of the "Eclair," and had occasionally seen Manoel Affonso during his illness, and afterwards carried his corpse as well as that of Anna Gallinha to Rabil, for the purpose of burial, was in two days afterwards attacked with fever, which proved fatal in a few days. Eusebio da Luz, who had attended him (Perica) during his illness, was also seized with fever, and soon died.

"Pulcherra Gertrude, the widow of Perica, was also attacked; but she recovered. Theresa Maria Jezus, who lived the second door from Anna Gallinha and Anna Texeira, who had occupied the same room with her, were also at this time laid up with fever, of which they both recovered. Maria Nazarinha, another visitor of Anna Gallinha, was taken ill, and died during the illness of Anna Texeira. Jose Carlos de Lisboa, who occupied the other house in Beira, was taken ill some time in the latter part of October, and died in five or six days. Among those who saw him was the son of Senhor Ignacia Carvahal, a merchant in Porto Sal Rey. *This young man never had had any connexion with the "Eclair" or any of her people, nor had he seen any sick, except Lisboa, with whom he remained two nights during his illness. He was attacked with fever the day after Lisboa's death, which proved fatal on the 4th of November.* Mr. Carvahal was nursed by his mother, sister, and father, who like himself were dark mulatto natives, but not one of them was affected with fever. The father ascribed his immunity to having had an attack of fever with black vomit, in the year 1817, while at St. Domingo in the West Indies.

"The disease had attacked several persons in Porto Sal Rey proper, or the lower part of the town, by the end of October; and some of the soldiers were sick in the barracks at this time. The force on the island is in general about forty soldiers, who, with few ex-

ceptions, are natives of the Cape de Verds. Before the late invasion of fever, there was one major and commandant, one lieutenant, and forty-one soldiers, including sergeants and corporals. Of the forty-one soldiers, thirty-two were negroes, or very dark mulattoes, and nine were European Portuguese. The whole were attacked with fever, which proved fatal to eight of the nine Europeans; two of them died at the fort, and the other six in the barracks at Porto Sal Rey. Of the native soldiers three died. Major Mascarenhas, the commandant, had an attack in December, of which he soon recovered; and the lieutenant left the island early in November. Lieutenant Santos, who came to Bona Vista in November, had a severe attack of fever so late as the beginning of March. His wife and family, amounting to seven persons, were also attacked shortly afterwards; but the disease had by this time in a great measure lost its fatal character, for they all recovered. During the latter half of November and throughout December, 1845, and part of January, 1846, the disease was at its height in Porto Sal Rey; sometimes six and seven persons dying in one day.

"Meanwhile his Excellency the Governor-General with his suite, several of the better class of Portuguese, and the whole of the English with the exception of six persons, had left Bona Vista and taken refuge in San Nicolao, Sal, San Antonio, Brava, and other islands of the group. A rigid quarantine was also imposed upon Bona Vista. The whole of those who left the island have I believe continued perfectly free from fever, with indeed the very notable exception of one family which returned to it in November.

"Mr. Pettingal, the arbitrator of the Mixed Commission Court at Bona Vista, who left the island on the 22nd October for San Nicolao, returned on the 11th November, under the belief that the disease had nearly if not altogether disappeared. Mr. Pettingal and his family, consisting of his wife and daughter, a young lady about twenty years of age, were lodged for the first night on their return to Bona Vista, in the house of Mr. Macaulay, and on the following day removed to *their own house*. A day or two subse-

quently, two mulatto girls, who, during the absence of the family to San Nicolao, had been in charge of the house, were both taken ill with fever; and although one was sent home immediately, the other remained in the house three days after she was attacked, and was during this time frequently visited by Miss Pettingal. Both of the mulatto women recovered; but on the 17th of November, or six days after the return of the family to Bona Vista, Miss Pettingal was seized with symptoms of fever, which in forty-eight hours were unequivocal, being marked by black vomit and retention of urine, and terminated fatally on the afternoon of the 24th November, or the seventh day from being attacked. Miss Pettingal was sedulously attended during her illness by Mrs. Learner, an English nurse, and constantly visited by her father, mother, and Dr. Kenny, her medical attendant. The captain of an American merchant-ship, who had been at Porto Sal Rey for some weeks, very frequently visited Mr. Pettingal's house during his daughter's illness, and assisted, at least on one occasion, in shifting the bed on which she lay from one room to another. John Dachin, an English servant of Mr. Macaulay, also assisted during Miss Pettingal's illness, and slept one night in the house. John Dachin was attacked on the 25th November, and died on the fifth day with the most malignant symptoms of yellow fever in the house of Mr. Macaulay. Mrs. Learner must have been attacked almost immediately after Miss Pettingal's death, for she died on the 27th November. Dr. Kenny was taken ill about the same time, and also died on the 27th, at Rabil. The American captain had violent vomiting two days after the death of Miss Pettingal, when he was put on board a small vessel and conveyed to the adjacent Island of Sal, with the view of joining his own ship. The authorities there, however, would not allow him to go on board his ship, or to land, and he died on his return to Bona Vista, in the same small vessel, just as they were entering the harbour.

"The results of the return of this family to Bona Vista had been already sufficiently direful: they were, however, not yet completed. Two days after the death of his daughter, Mr.

Pettingal, with his wife, embarked in a schooner called the "Livramento," and sailed for San Nicolao. During the passage he seemed completely prostrated by mental rather than physical suffering. The vessel arrived at San Nicolao on the following day, and was ordered to perform a quarantine of fifteen days at a desolate part of the island called Tarafal Bay, which greatly aggravated Mr. Pettingal's despondency. He now complained of pain in his legs, which exhibited large dark-coloured patches, acidity at stomach, general pains and yellow suffusion of the eyes. Hiccup and black vomit closed the scene on the 5th December.

"The 'Livramento,' immediately after the death of Mr. Pettingal, returned to Bona Vista, and again landed Mrs. Pettingal there. On the passage, one sailor died of yellow fever, and another went on shore ill at Porto Sal Rey, where he soon died of the same disease. Mrs. Pettingal remained at Bona Vista till the 18th of January, 1846, when she returned to San Nicolao, where (after undergoing quarantine at Sal) she joined the family of Mr. Miller, a merchant. In the month of February there were still cases of fever occurring in Porto Sal Rey; but the disease now assumed a milder form. There were a few cases in March, and I saw three so late as early in April. In these there was a saffron-coloured suffusion of the eyes, but no black vomit. Two of them were blacks, and the other was a European boy. They all recovered.

"By the end of April, Porto Sal Rey was quite free from fever."

We shall leave these facts to speak for themselves. If causation, in reference to the transmission of a disease by infection or contagion, be denied in this case, we think that a work might be very easily written to prove, that,

* RATE OF MORTALITY FROM FEVER IN PORTO SAL REY.—*Europeans*.—Portuguese:—Number exposed to fever, 58; attacked with fever, 47; died, 25. Ratio of deaths in the population, 1 in 2.1; ratio of deaths in number attacked, 1 in 1.3.

English, including two Americans, who were exposed to the fever, 11; number attacked, 8; died, 7. Ratio of deaths in population, 1 in 1.6; ratio of deaths in number attacked, 1 in 1.1.

French.—Number exposed to fever, 2; attacked, 2.

Spaniards.—2 not attacked.

Native Population.—Free, 666; slaves, 249. Total, 915. Died—65 free, 3 slaves. Ratio of deaths in native population, 1 in 13.4.

contrary to well-observed facts, extending over many generations, and derived from the most matured experience, the alleged infectious nature of small-pox and scarlet fever is a mere delusion!

We have placed some lines of the extract in italics. Let the facts there referred to be compared with the challenge contained in the letter written by Sir William Burnett before Dr. McWilliam was dispatched on his mission:—"If it can be fully and satisfactorily shewn, that any person who had so visited the ship or tents where the sick were placed, contracted the fever in question, and communicated it to others, and they to other persons in succession, who had never visited the ships or sick, then there can be no reason to doubt the infectious nature of the disease." We cordially agree in this conclusion: but, in spite of the facts so clearly detailed in the report, the writer has since stated, in his official letter, that he "cannot conscientiously arrive at the conclusion the doctor has done—viz. that the fever was occasioned by the intercourse with the 'Eclair.'" To us, and, we think, to all medical readers, who, like Dr. McWilliam, consider the facts without reference to previous views, the evidence of a disease being propagated by contagion or infection, could not be more satisfactory or more clear. On any other hypothesis, the arrival of the "Eclair," and the appearance of the fever in this particular island of the whole group of the Cape de Verde, must be regarded as a mere coincidence! The same view must be taken of the first outbreak of the disease, not merely at the particular port at which the vessel touched, but also among certain hitherto healthy persons who had been employed to guard a fort to which the sick crew were confined! The facts—that the fever attacked and

destroyed these men within a few days after the vessel had sailed,—that its symptoms were similar to those which presented themselves among the sick crew,—that it first appeared in the town, in a room adjoining that in which two soldiers lodged who had been employed in attending their sick comrades at the fort,—are also, upon this hypothesis, to be regarded as mere accidents, having no relation whatever to each other!

If an alleged remarkable state of the weather preceding the appearance of the fever in the island, can explain these circumstances, we shall not despair of any medical hypothesis on any subject being hereafter established, in face of the strongest evidence against its probability or truth. The "weather" hypothesis in this case involves also an additional concession. Bona Vista is only one of twelve islands, all within a comparatively short distance of each other; and yet, for the sake of pronouncing this fever non-infectious (or not communicable), we are to assume that there was "a remarkable state of the weather" specially confined to that particular island at which the "Eclair" stopped! We have already stated, that at Goree, where all communication was prevented, the fever did not appear; but, as an additional piece of evidence of the efficacy of preventive measures, we may state, that, up to the period at which Dr. McWilliam left the Cape de Verdes (on the 15th July), "the disease had in no case extended to any of the other islands of the group, but a rigorous quarantine was still imposed upon Bona Vista.*" It is not in evidence that the weather which prevailed in these islands, was at any time different to that which was observed at Bona Vista. The fair presumption is, that a few miles of sea would make no particular difference. Those who as-

sert the contrary are bound to shew that they have some good reason for making the assertion. A more rational explanation of the exemption of these islands from a direful disease, will, it appears to us, be found in two circumstances—first, in their having had no communication with the "Eclair;" and, secondly, in their having cut off all intercourse with the inhabitants of that island which had admitted this ship into its port!

One other fact requires to be noticed. When this subject was under discussion in 1845, it was alleged that the yellow fever was prevailing in a neighbouring island (San Jago) while the "Eclair" was at Bona Vista. This appeared to be a very ready way of explaining the introduction of the fever without reference to the "Eclair." But what says Dr. McWilliam on this point? These are his words:—"This statement is erroneous. I have met with several gentlemen who were at San Jago at the period in question, and they all assured me that the only fever on the island of San Jago was at Porto Praya, where the usual endemic remittent prevailed, but in no unusual degree from what is experienced during every rainy season."

We shall shortly return to this subject. It is clear, that, if the quarantine laws are destined to undergo any salutary modification, a knowledge of the truth in disputed instances of imported disease, is absolutely necessary. No greater mischief can be inflicted on a community than by enacting or repealing laws upon false or imperfect information; and, in reference to quarantine, the question is not one that affects merely the well-being of a nation: it involves the lives of thousands—a result too momentous to justify a wise Government in leaving the issue in the hands of a party of commercial theorists.

* Report, p. 95.

It is many months since we have had to record so low an amount of mortality as that which will be found in our weekly summary of the Registrar-General's return in the present number. The deaths were no less than 128 below the weekly spring average; and this highly favourable change may be ascribed to the comparatively high temperature succeeding a long and cold winter.

The state of the public health throughout the country during the present year has created some anxiety, and has induced the Government to bring forward measures for the removal of those causes which invariably tend to keep up a high rate of mortality. The Registrar-General's return for the first quarter of 1847 furnishes some interesting details, which we here lay before our readers.

"Winter appears to be the season in which it is most natural to man to die. For many years the number of deaths in England has been highest in the winter and lowest in the summer quarter. In the summer quarter of 1846 the reverse was observed: the mortality was greater than it had been in any quarter of the seven preceding years; and, in the last winter quarter ending March 31, 1847, *fifty-six thousand one hundred and five* persons died in the districts which make the returns,—a number greater than has been registered in any corresponding quarter, and *six thousand and thirty-five* above the corrected average. The deaths in the quarter in all England and Wales may be estimated at 120,000.*

"The registrars, in their notes, ascribe the increased mortality generally to inflammations of the lungs and air-tubes, to typhus, and other diseases, and the effects of cold on the aged. The high price of provisions is also mentioned.

* The yearly deaths in the districts from which the Quarterly Table is framed, comprise 47·11 per cent. of the deaths in all England and Wales; the proportions in the March quarter are 46·49; in the June, 45·74; in the September, 45·21; and in the December, 48·16 per cent.

"The disastrous effect of the immigration of the Irish poor on the health of English towns, was dwelt on in the previous Quarterly Return. The evil increased during the winter quarter; and the deaths of Liverpool, where the mortality has always been high, were 3068, or 1134 more than in the winter quarter of 1846, and nearly 1000 above the average of ordinary seasons. The registrars' notes, under Liverpool, Manchester, Stockport, and Preston, contain some information on the subject. Notwithstanding the depressing aspect of this overflow of pauperism from a third part of the United Kingdom, left for centuries without an efficient poor-law, the authorities of the English towns which the visitation has reached, appear to have made every provision in their power for the relief of the unfortunate people. For thousands of the Irish peasantry they have found food; for thousands, graves; and many of their officers and townsmen have fallen in the courageous discharge of the duties thrown on them,—in one sense by a natural calamity—in another by a national crime. The Registrar of the Howard Street sub-district, Liverpool, remarks that—'The return shews a very great increase in the mortality of this district, which is, without doubt, solely attributable to the many thousands of Irish paupers who have landed here within the last three months, bringing with them a malignant fever, which is here very properly called 'the Irish fever;' and many hundreds of them were suffering from diarrhœa and dysentery when they arrived, which will account for so many deaths from those causes. Everything which humanity could devise and money carry out for their cases has been adopted by the Select Vestry; but so many thousands of Irish are continually pouring in, and their habits are so disgustingly filthy, that little can be done as yet to stay the great mortality amongst them. Perhaps there is not a parallel case to Liverpool for the last two months in the history of the country.'

"Fifteen thousand two hundred and eighty-nine deaths were registered in London during the first thirteen weeks of the year,—a greater number than has been registered in any previous winter since the weekly table commenced. • • • Upon the whole,

the health of London, like that of the rest of the country, has been below the average; and, although the cases are to a certain extent accidental, and, as we may hope, transitory, it is evident that the health of towns in England is at present stationary, not to say retrograding."

From the 1st of January to the week ending June 5th, 1847, the deaths in the metropolis have been invariably above nine hundred. The sudden reduction to below eight hundred, which we have to record this week, is nearly equally diffused over all the specified causes; but the most marked difference is perhaps seen in the mortality from diseases of the organs of respiration. The deaths from bronchitis are now but little above the average, while those from pneumonia are much below. The deaths from typhus fever are still proportionably very great.

It is not unlikely that, with this low amount of mortality, there may be a great extent of "morbidity*" among the population. The number of deaths serves to indicate the relative fatality of disease at particular seasons: it is not always a criterion of its diffusion among a population. The researches of Professor Casper have shewn that during summer, when the deaths are fewest, there is the greatest amount of sickness, while during spring and winter the morbidity of a population is often at its minimum. We have, however, no better means of determining the state of the public health in this country than by noting the number of deaths from particular causes in particular seasons; and in this respect the metropolis stands at the present time in a very favourable position.

* The term "morbidity" is derived from a suggestion by Professor Casper, to indicate the amount of sickness existing in a population.

Reviews.

Vaccination considered in Relation to the Public Health, &c. By JOHN MARSHALL, Surgeon. Pamphlet. 8vo. pp. 34. London: Renshaw. 1847.

THE author of this pamphlet, which is addressed as a letter to Lord Morpeth, is of very recent standing in the profession, but he has shewn much ability by the manner in which he has analysed statistically a most important question. Mr. Marshall considers, from the facts which he has accumulated, that a large amount of unnecessary sickness is entailed upon us as a nation, by the loose manner in which the provisions of the Vaccination Act are carried out: in other words, that, with the means of prevention in our hands, small-pox is more frequent and fatal in crowded populations than it ought to be; and that, under the proposed enactment of measures for improving the health of towns and the education of the poor, it is in the power of the Government both to extend the practice of vaccination, and to ensure its performance on a more efficient plan. The diminution of attacks of small-pox cannot always be referred to the influence of the Vaccination Act. It has not been sufficiently considered that for every death there have probably been at least four attacks, and that the three survivors become thereafter as much protected, as if they had undergone vaccination. The fluctuating character of the annual mortality from small-pox, as derived from the returns of the Registrar-General, is therefore, to a certain extent, independent of the progress of vaccination under the present system. The author, in our opinion, satisfactorily establishes his two positions—1, that vaccination is not now universally employed; and 2, that it is not regularly and evenly applied.

As remedies, he proposes—1. That, under the new education measure, the reception of a child into a school receiving a grant from the Government funds, shall depend on such child having been vaccinated, or having had small-pox, or on its undergoing vaccination within *one month* after its admission. 2. That, under the Health of Towns' Act, the officers of health shall have the power of visiting and

inspecting all schools whatever, and reporting upon the condition of the children in reference to small-pox and vaccination.

We do not see any valid objection to the adoption of one or both of these regulations. If proposed, however, we fear, that, with the prospect of a coming election, some member desirous of a little popularity might oppose them, as an attempt on the part of Government to introduce into England the detestable principles of despotic countries! Nevertheless, the subject calls for the serious attention of the minister to whom this letter is addressed. The facts collected by Mr. Marshall cannot fail to carry to the minds of all, a conviction that the authority of Government is urgently required to ensure to the whole population the full benefits of the Vaccination Act.

Health of Towns and Villages. On the Source of Bodily and Mental Disease, &c. By C. F. J. LORD, M.B.C.S. Pamphlet, 8vo. pp. 24. London: Ollivier, 1847.

MR. LORD has here addressed a letter to Sir T. M. Wilson, on the popular subject of the day—"the health of towns and villages"—in reference to the state of the locality in which he resides—Hampstead. He is right in stating that, while large towns will certainly receive the attention of the legislature, the state of the smaller hamlets and villages equally demands public scrutiny and improvement. We had no idea, until reading the statements in this letter, that a place usually regarded as highly salubrious, and resorted to as such by the inhabitants of the metropolis, had within its precincts, alleys and courts, which, as foci of pestilential miasmata, might rival those of Saint Giles's or Houndsditch! The supply of water is eminently defective: even the wealthy class of inhabitants have only half that supply which is necessary for health and cleanliness. Drainage, it appears, has been generally dispensed with, as entailing too heavy a charge upon the rates; although it would be easy to prove that the short-sighted economists must suffer an equal if not a greater loss by this neglect of a system so necessary to health! From the account given by Mr. Lord of the condition of some parts of the town, it

would appear that ventilation is left to take care of itself, while every precaution is used to throw obstacles in its way, by huddling together the habitations of the poor. Chairs painted white are speedily blackened by the sulphuretted hydrogen evolved on the ground-floors of the houses, and cage-birds and domestic cats perish from the effluvia as well as human beings! All these matters require an immediate remedy; and if persons will not voluntarily contribute to suppress nuisances, which in the end must expose to disease and death, the whole of a population, it is time that the law should rouse them from their selfishness, and compel them to aid in putting an end to the insalubrious condition of the pauper tenements around them. *Salus populi suprema lex.* We trust that Mr. Lord's letter will have the intended effect of drawing attention to the evils of which he complains.

An Account of the late Epidemic of Scarlatina in Newcastle and its Neighbourhood. By EDWARD CHARLTON, M.D. Ed. Pamphlet, 8vo. pp. 62. Newcastle: Richardson.

WE commend the principle upon which this pamphlet has been written. In the autumn of 1846, Newcastle-upon-Tyne was visited by epidemic scarlatina in a most severe form. In fact, for a period of seventy years, the disease had not been known to be so widely spread or so fatal in its progress. Partly from personal observation, and partly from assistance cheerfully rendered by the medical practitioners of the neighbourhood, Dr. Charlton has here collected and arranged a large number of facts illustrative of the history and progress of the malady.

Monographs of this description are exceedingly valuable, and if more frequently published by medical men, in reference to epidemic diseases which occur around them, they would tend to remove many theoretical errors, and to lead to beneficial improvements in treatment. Such labours, it is true, seldom meet with their reward, since the essays have nothing of the character of book-speculations: hence the greater merit to those who, like Dr. Charlton, sacrifice private considerations for the benefit of the public and profession.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

May 25.

J. M. ARNOTT, Esq. F.R.S. PRESIDENT.

Observations on the Coexistence of Variola and Scarlatina, with Remarks on the Coexistence of other Eruptive Fevers.
By J. F. MARSON, Surgeon to the Small-Pox and Vaccination Hospital, London.

DURING the last eleven years, the author of this paper has seen, at the Small-Pox and Vaccination Hospital, seven persons who had variola and scarlatina simultaneously. These patients were apparently suffering from small-pox only on their admission, but in the course of a few days scarlet fever also developed itself. In each case, all the leading symptoms of scarlatina were well marked, and the eruption was evidently different from the roseola which frequently precedes the eruption of small-pox, and also different from the erythema, (somewhat resembling it,) arising from the miasm of hospitals; in fact, it was the florid red eruption peculiar to scarlatina, which no other eruption exactly resembles. Three of the patients were unprotected, and four of them had been vaccinated. All recovered but one, the particulars of whose case were given in full. Three other patients with variola and scarlatina existing at the same time, have been seen, within the last few years, at the London Fever Hospital. Reference was made to the opinion so strongly expressed by Mr. Hunter, that no two fevers could be coexistent. Several cases were then alluded to, that have been published by different observers, in France and England, of the coexistence of variola and scarlatina, variola and rubeola, variola and pertussis, variola and vaccinia; rubeola and scarlatina, rubeola and vaccinia, rubeola and pertussis; varicella and vaccinia; pertussis and vaccinia. The individuality of erysipelas, as a special eruptive fever, was commented on, this disease being shown to arise, almost invariably in hospitals, from the impure air produced by morbid animal effluvia. The French were acquainted with the fact, fifty years ago, of small-pox and scarlatina existing together occasionally, some cases being referred to by the author, published by M. G. Vieussacx, at that period, but the subject has nearly escaped attention, or at least remark, by writers of this country.

Report of some Cases of Molluscum Contagiosum, with Remarks on its History

and Pathology. By RICHARD PAYNE COTTON, M.D. Member of the Royal College of Physicians, London.

The author commenced by a description of the disease, as lately seen by him in a respectable family, in which the mother and three daughters were affected, and the father and two sons exempt. It first attacked the eldest girl, and subsequently all the female members of the family. Commencing in the form of prominent, rounded, moveable tumors, smaller than a pin's head, which after a few months increased to the size of a large pea, and throughout presented a small central depression resembling that of a small-pox pustule; they were red, soft, and shining, but in the process of growth became hard and warty; their attachment was often pedunculated, but more commonly by a broad base. No inconvenience attended them unless they were exposed to friction; and the surrounding skin was never inflamed; they were usually arranged in groups, but never coalesced. At first, an opaque, creamy-looking, imodoriferous matter escaped from the central depression upon pressure, but as the tumors grew this secretion became indurated.

A drawing of the microscopical appearances of the secretion was exhibited, by which it appeared to be made of two distinct structures, one cellular, the other fibrous—the former composed of elliptical or spherical cells; the latter, of waved fibrils resembling the white fibrous element. From the central depression being formed by the contracted opening of a duct, the absence of the tumors upon the palms of the hands and soles of the feet, where sebaceous glands do not exist, and the lobulated form of the hard secretion, the author concluded that these organs were the seat of the disease. An account of the microscopical appearances of the contents of comedones, or retained sebaceous matter, was then given, and shown to be dissimilar to that of molluscum. The origin of the disease in the cases reported was referred to some peculiarity of organism inherited from the mother, and not to contagion. The rarity of the affection was then spoken of, and a reference made to cases already described by Bateman, Camenave, Erasmus Wilson, and Drs. Henderson and Paterson, from which it was inferred that some were really propagated by contagion, whilst others seemed incapable of becoming so; that the secretion in some cases was simply sebaceous matter, but in others a peculiar and independent organism. Hence, it was concluded by the author that the disease is contagious or not, according to the nature of the secretion, its seat remaining the same; that Bateman's division into molluscum contagiosum and molluscum non-contagiosum would therefore be insufficient, as he had applied the latter term to an affection

distinct from the one described in the report, and not spoken of by subsequent authors, but probably some follicular tumor; and it was proposed to limit these terms to the disease hitherto called *molluscum contagiosum*. The affection terminated either by an escape of the secretion, which was rare, or its induration, and the formation of a permanent warty tumor. The treatment consisted merely in removing the tumors, and checking the tendency to their development by friction of the skin and ablutions, the general health being remarkably good. As soon as the tumor appeared, pressing out the secretion, and the subsequent application of nitrate of silver, produced a speedy cure; but for those more advanced three methods were adopted—1, removal by scissors; 2, ligature; 3, the evacuation of the secretion through a small puncture, followed by the application of nitrate of silver. The last treatment was most successful.

Case of Malformation of the Heart, in which Death resulted from Obstruction of the Trunk of the Pulmonary Artery.
By THOMAS B. PEACOCK, M.D.

The subject of this case was a boy, fifteen years of age, who had from early life exhibited slight appearances of cyanosis. Twelve months before his death he was thrown from a cart, and after that period the lividity of the countenance became much more marked, and he was subject to frequent attacks of chest affection, and to palpitation. His last illness was of eight days' duration, and commenced with rheumatic symptoms, followed by difficulty of breathing, and pain in the chest. When admitted into the Royal Free Hospital he exhibited very marked cyanosis, and a loud murmur, accompanying the impulse of the heart, was audible in the præcordia and along the sternum. At the situation of the base of the heart the murmur masked all other sounds; but towards the apex, and the lower and right side of the sternum, it was followed by a loud second sound. He died a few hours after his admission. On examination, the aorta was found to arise in part from the right ventricle, and the orifice and trunk of the pulmonary artery were of very small size. The right ventricle was also separated by a supernumerary septum into two cavities, one being the infundibular portion, giving origin, as usual, to the pulmonary artery; the other consisting of the sinus of the ventricle, communicating with the aorta. The abnormal septum was incomplete over a space about equal in size to that by which the aorta communicated with the right ventricle. The orifice of the pulmonary artery was provided with only two valves, and these were so thick and rigid as to occasion a further contraction of the aperture. The trunk of the vessel

was entirely obstructed by partially decolorized coagula, which were laminated and adherent to the thickened and diseased valves and coats of the vessels. The author remarked that the case was closely allied to the ordinary form of malformation, in which, with congenital contraction of the pulmonary artery, the septum of the ventricles is defective at the base, so as to allow the aorta to receive its supply of blood from both ventricles. Its great interest, however, lay in the division of the right ventricle into two cavities communicating with the aorta and pulmonary artery respectively, and the free admixture of the venous and arterial currents of blood, which must consequently have taken place throughout the whole of the boy's life. So far, however, from this having been productive of marked cyanosis, it was stated that there was but little peculiarity in the boy's appearance till the supervention of secondary disease in the pulmonary artery after the fall, twelve months before his death. The cause of death was also, it was remarked, unusual. Though obstructions in the terminal branches of the pulmonary artery had been shown by Baron and Paget to be of frequent occurrence, the writer was not aware of any other case in which the trunk of that vessel had become obstructed.

On Porous Rarefaction of the Bone, consequent upon Gout. By ALEXANDER URE, Esq., Fellow of the Royal College of Surgeons, and Surgeon to the Westminster General Dispensary.

The author observed that, upon making a transverse section of a digital phalanx, taken from a gouty subject, a peculiar speckled appearance was perceptible. The medullary canals were seen preternaturally enlarged, and filled with a cretaceous matter, which effervesced with acids. The Haversian canals were, in like manner, irregularly enlarged and choked up with this substance. The osseous lacunæ or corpuscles were, in some places, increased in size, and rounder than ordinary, but for the most part less distinctly marked. The canaliculi, more especially in the vicinity of the medullary canals, were replete with the above deposit, thicker than normal, and in obvious communication with the medullary canals. There was thus induced porous rarefaction of the bone. The author stated that the matter in question consisted chiefly of carbonate of lime, while a portion of tophus, detached from the adjunct phalangeal joint, was almost wholly composed of urate of soda. In reference to the above peculiar condition of the osseous structure, he remarked, that Dr. Gerlach, of Mayence, whose co-operation he had in the above research, subsequently ascertained that precisely the same appearances were

present in the section of bone taken from a person who had been afflicted with morbus coxæ senilis. Arthritic osteoporosis is an affection of a very insidious character. It commences almost imperceptibly, creeps on stealthily, year by year, and is accompanied by occasional pain and swelling. Although usually occurring in individuals hereditarily predisposed to gout, it is not necessarily preceded by a fit of that malady. While the author believes it to be but little amenable to treatment, he is of opinion its progress may be somewhat retarded by judicious hygienic measures; and the attendant pain and uneasiness relieved by topical steam baths, in conjunction with the vapour of mineral naphtha, and by various other soothing means.

SOUTH LONDON MEDICAL SOCIETY.

May 27th, 1847.

C. WATERWORTH, ESQ. PRESIDENT,
IN THE CHAIR.

MR. LODGE brought before the notice of the Society, the "Effects of Syphilis on the Fœtus in Utero;" remarking that he wished to elicit discussion on a subject of so much importance. He referred to the following heads: viz.—

1. Abortion occurring from a syphilitic taint in one or other parent.

2. The death of the fœtus, although abortion does not occur.

3. The fact of the fœtus being infected in utero, although such infection is not evident until after birth; and

Lastly. The appropriate treatment.

He fully canvassed the opinions of authors on the above points, and stated, that, from his experience (and he was borne out by the majority of authors), he believed that syphilis in one of the parents caused the death of the fœtus, and abortion was the consequence. He was decidedly opposed to the opinions of those who think that the mercury exhibited was the cause of abortion, inasmuch as he considered it the only means of averting it. His practice was to give mercury to the mother, so as to produce gentle salivation, when many successive dead children had been born, and there was no other evident cause for the repeated abortion; and he did this although neither parent shewed any signs of syphilis. He related three cases which had occurred to him during the past year. In the first case, nine successive abortions had occurred; in the second case, four; in the third case, frequent abortions had taken place; and in all three, after a cautious and continued use of Hyd. c. Creta, a living child was the result. In the

first and third cases, secondary symptoms appeared in the child a few weeks after birth.

Dr. MURPHY did not believe that the habit of frequent abortions curable by mercury could be attributable to a syphilitic taint. It was, in his opinion, extraordinary how so intimate a connection as that between the mother and the fœtus in utero could exist, without the syphilitic poison, which was circulating in so virulent a manner through the vessels of the fœtus as even to deprive it of life, being communicated to the mother; for it is well known the mother, unless infected by the father, shews neither primary or secondary symptoms. In reference to Mr. Lodge's first case, it was unlikely the mother should not have the disease, and yet nine children die in utero. Supposing the fœtus to be contaminated on the father's side only, it would then be necessary to salivate the mother during each pregnancy; but this is not contended for. He believed, therefore, that abortion was not caused by syphilis, but generally depended on some constitutional cause. There were two forms under which the appearances termed "syphilis" in infants may present themselves:—those which present themselves soon after birth, and are easily curable by mercury; and those which arise from contamination by the nipple of the nurse. These latter are due to a disease called "sibbens;" the symptoms are all external; the constitution never suffers, and they are curable by nitrate of silver or sugar of lead lotions, and not by mercury.

Mr. LODGE did not mean that syphilis is always the cause of abortion, although it is by far the most frequent one.

Mr. HICKS had observed several cases, which he had traced to syphilis, and the women had afterwards borne healthy children. He alluded to the peculiar characteristic snuffles in the nose, and the aged appearance a child has, when affected by syphilis, and also to the fact that the use of mercury renders the children robust and healthy. In reference to Dr. Murphy's opinion that the symptoms thus affecting children are not syphilitic, he would ask him if he had seen coppery blotches ever occur without syphilis preceding?—and if so, and these secondary symptoms were produced by mercury, why should they not occur after the use of mercury for ordinary affections?

Dr. MURPHY, in reply, stated, that the mode of exhibiting mercury in inflammatory and syphilitic diseases was extremely different; in the latter being often given in a secret and careless manner: therefore the two cases were not analogous.

Mr. HILTON said that Dr. Murphy had not given a satisfactory answer to Mr. Hicks' question, "If coppery blotches were ever

observed after the use of mercury, *without* preceding syphilis?" He thought the majority of the Society would agree with Mr. Lodge in his opinion of such cases, and that the treatment by mercury was eminently successful. He believed Sir B. Brodie's plan of using mercury the best.

Dr. MURPHY thought that, in the cases referred to, the children would die unless mercury was used; and, therefore, he should not touch on the treatment; but it was a doctrine that could not be too emphatically condemned, that because curable by mercury, their disease was necessarily syphilitic.

Mr. LODGE stated, in reference to the treatment of syphilis in children, that he merely gave mercury as an adjunct, preferring the iodine.

The PRESIDENT remarked, that, although it was difficult to say how the syphilitic poison acted on the foetus in utero as to cause its death, yet it was generally agreed that a mercurial treatment prevented abortion in such cases, and also cured the child, when the symptoms appeared after birth.

Mr. B. EVANS believed there might be a syphilitic taint in the father, so as to cause abortion, and yet the mother should never have been affected by either primary or secondary symptoms, and related a case where the mother aborted five times, and, mercury being given to the father, the mother afterwards bore a living child.

The Society then adjourned until next session.

MANCHESTER PATHOLOGICAL SOCIETY.

May 6th, 1847.

Atheroma of the aorta—rupture of one of the semilunar aortic valves.

Dr. BELL presented the thoracic aorta of a man, much dilated, and covered with atheroma; also the semilunar valves, one of which was ruptured and covered with vegetations. The left ventricle was somewhat enlarged and thickened; the left auricle was thin and very much dilated; otherwise the heart was correct. There was also old adhesion of the pleura, and a fatty condition of kidney. During life there existed a remarkably distinct double endocardial murmur, of which, that corresponding with the diastole was much more marked than is usually met with. The systolic murmur was harsh and loud over the valves, and all along the course of the aorta high on the right side of the chest; the diastolic murmur proceeded chiefly in the direction of the apex of the

heart, and was loudest at the lower part of the sternum. But for these evidences of an irregularly patent aortic orifice, the case would have been extremely obscure during life, as the patient was first seen when he was passing into a state of stupid lethargy that increased nearly to coma, except when he was roused into madness by a nightly paroxysm of excruciating pain referred to the abdomen.

Thick-set and fat, notwithstanding his long illness and abstinence: he had once been in better circumstances, had travelled since in America, but latterly had worked as a railway excavator, where he pursued his accustomed habit of eating little, and consuming a large quantity of malt liquor.

Two months before death he had been much exposed to wet when tunnelling, and had an accession of rigors, with fever and sweating, every afternoon for the space of six weeks; after this the rigors and fever left him, but the sweating remained.

When visited, a few days prior to the issue, the carotids beat powerfully, as also the radial arteries when the arm was raised; the tongue and mouth were sore, cracked, and dark-coloured, so as to interfere with swallowing and articulation. The lethargy increased, and every night, towards eleven or twelve o'clock, a paroxysm of pain came on, which would cause him to spring up, toss about his arms, and roar in agony. Three or four days before death the "land scurvy" developed itself, which, since the early part of the month of May, has been so fearfully prevalent amongst the class of operatives who have been badly fed, and restricted in the use of fresh vegetables.

The cause of disease was considered by Dr. Bell to have been, exposure to cold and wet, acting on a constitution predisposed to gouty inflammation. In this habit of body, causes that produce endocarditis or pericarditis in a person of more purely rheumatic tendency, are often seen to produce inflammatory action limited to the aorta. The intermitting type assumed by the concomitant fever seems an instance, by no means rare, of the predisposition acquired by residence in agueish countries, to cause any irritative fever, by whatever cause produced, to assume that character, even though the tendency may have been latent for years.

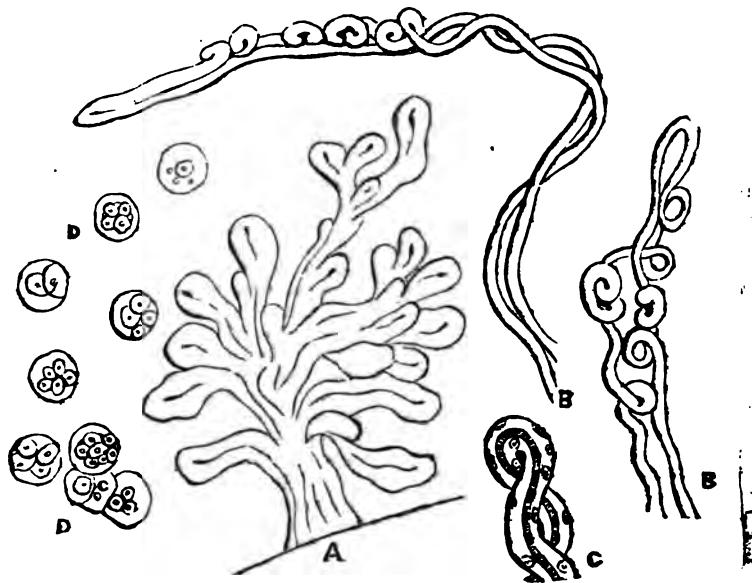
Pathology and minute anatomy of cauliflower disease of the uterus.

Dr. Rensseld brought before the Society microscopical drawings, illustrative of the minute anatomy of cauliflower disease of the uterus. These drawings went to prove that cauliflower excrescence bears a most exact analogy to the foetal placenta in so far as the arrangement of the vascular apparatus

is concerned, whilst it differs from the placenta, by reason of every capillary interspace being filled up with nucleated cells characteristic of true encephaloid disease. This crowding together of cells in cauliflower

excrescence robs it of the spongy feeling peculiar to the placenta, and imparts the brittleness and crispness which all writers have agreed that it possesses.

Minute anatomy of the cauliflower excrescence of the uterus.



A, in the woodcut, represents a tuft of pedunculated capillaries, magnified 100 diameters, after being well washed in water.* B B are two coiled loops. C is a terminal loop more highly magnified to display the blood-discs in the vessel, and also the investing membrane by which they are all surrounded, and on which, here and there, are seen the small cells proper to it. D D are the encephaloid cells, variously nucleated, and magnified 800 diameters.

Reasoning from these microscopical appearances, the pathology and semeiology of cauliflower disease seems most easy of explanation: viz. a modification of soft cancer, attacking the os uteri, and growing, as soft cancer does, by nucleated cells, which multiply themselves. These cells would appear to be supplied with nourishment by the looped capillaries which take origin from the mouth of the uterus, and become racemose after the manner of the true placenta.

The extreme tenuity of the walls of the capillaries, and their depending position, would appear most readily to account for the two most striking symptoms of the dis-

ease, viz. hæmorrhages, and profuse watery discharge. In the one case the slightest bruising would be sufficient to produce rupture of the vessels; and in the second, the want of due support, and the constant congestion to which the diseased growth is subject, must almost certainly find relief by the oozing forth, through the delicate membranes, of the more fluid parts of the blood.

If the foregoing be correct, then the plan of treatment by the local application of caustic, &c., as recommended by Mr. Whitehead, in the report of the Manchester Pathological Society,* receives additional confirmation; and, in the present case, had caused the greater part of the excrescence to disappear, exposing the thick and everted lips of the uterus.

The gradual destruction of a highly vascular growth, and one withal disposed to bleed, seems the best remedy, and capable of being accomplished with little pain, and less risk.

The drawing is interesting in a physiological point of view, because it demonstrates the power of the uterus, under certain circumstances, to develop a vascular appa-

* Vide Edin. Med. Journ. of Med. Science, 1848, p. 182, Observations on Placenta, by F. Renaud.

* Med. Gaz. Dec. 4, 1846.

ratus, which hitherto has been considered a property possessed by the ovum, and peculiar to the chorion.

Dr. RENAUD observed, the nearest approach to demonstration of the true nature of cauliflower excrescence seemed to be made by Dr. Anderson,* who concluded the capillaries to be "plates of whitish matter separated from one another by reddish lines." Dr. Anderson concluded Sir C. Clarke must be wrong in his statement of a "membrane very fine in texture being spread over the surface of the tumor," from which the aqueous humor was poured out. Without the aid of the microscope, Sir C. Clarke inferred the tumor "to be made up of a congeries of blood-vessels," which he supposed were arteries terminating on the surface of the tumor. He had also made the assertion, that "the placenta and cauliflower disease differ only in name," remarking that "the placenta consists of blood in blood-vessels; the cauliflower excrescence consists of blood in blood-vessels."

*General Dilatation of the Air-Tubes—
Laennec's Emphysema.*

Dr. WATTS presented a specimen of the combination of general dilatation of the air-tubes with Laennec's emphysema.

Both lungs were emphysematous throughout, and congested with blood; the uppermost lobe of the right lung was a little puckered at the summit; the lower lobe of the left lung had contracted a few pleural adhesions, and along the anterior border of its upper lobe there was a strip of chronic grey induration, from half an inch to an inch broad.

The air-tubes of both lungs were all greatly dilated, from the first subdivision to their periphery, and in the indurated portion of the left, were seemingly distended into large sinuses. The mucous membrane of the tubes was everywhere intensely red, much hypertrophied, uneven, and thrown into strongly-marked rugæ, and coated with a very stiff, plastic, somewhat curdy-looking matter, which apparently stopped up the openings into many still smaller air-tubes. The pulmonary tissue closest in apposition to the exterior of the tubes was very black, but did not differ otherwise from the rest of the lung, retaining the ordinary colour. There was no tubercle or other disease either in the lungs or any organ.

The patient, Elizabeth Williams, aged 20 years, had been subject to more or less cough or wheezing ever after recovery from hooping-cough in childhood. She consulted Dr. Watts in 1842, being then affected with pulmonary catarrh and expectoration of glairy mucus in extraordinary quantity. The physical signs indicated

* Edin. Mo. Journ. Med. Science, 1842, p. 884.

emphysema of the lungs and catarrh. The expectoration became purulent, slowly diminished in amount, till at length it ceased, and she recovered her wonted health. In 1843 she was attacked with typhus, alarmingly complicated with congestion of the lungs, which was most opportunely relieved by a copious expectoration of blood: she forthwith rallied, and after a long course of treatment the pulmonary affection was again checked. In the summer of 1844, being threatened with a return of the catarrh, change of air to the sea-side and warm bathing was recommended, and proved decidedly beneficial. She committed the indiscretion, however, of bathing in the open sea, and suffered a relapse of the catarrhus disease and pulmonary congestion, together with spitting of blood. During convalescence the menses appeared, and from this period the pulmonary symptoms were wonderfully ameliorated; so that she acquired comparative health for a length of time, but remained wheezy and shorter-breathed than most persons. In the autumn of 1846, having taken cold, the lungs became excessively congested, and she again expectorated blood. The catarrh continually relapsed, and the menses disappearing the congestion of the lungs became more and more unmanageable. Pus was expectorated to an enormous amount; at first, it was whitish, or straw-coloured, but at length put on a green putrid appearance after long intervals of rest from coughing. The cough usually came on in paroxysms, and during the severer fits of coughing the expectoration chiefly happened; the matter coughed up on awaking at morn being especially abundant, and resembling much the appearance of abscess-pus. But the physical signs only indicated Laennec's emphysema, pulmonary catarrh, and occasionally obstruction to the passage of air into one part or another of the lungs. Though she grew so weak as to be confined for many months to-bed, there was no alarming waste in flesh until four or five weeks before her decease, when her appetite failing, the emaciation was rapid. For nearly a week prior to the fatal event she could not expectorate freely, owing to the increasing debility, and the sputum and breath diffused an intensely putrid odour, until death put a period to her suffering, on the 19th of March, 1847.

Dr. Watts diagnosed in this instance dilatation of the air-tubes, intense congestion and hypertrophy of their mucous membrane, and Laennec's emphysema, as follows:—

The plumpness of the chest, the universal clearness of the percussion sound, the sibilant respiration, the prolonged wheezing expiration, and the veiled pectoral voice, satisfactorily pointed out the emphysema.

The long continuance of the secretion of pus, the great amount of pus expectorated, as well as its several peculiarities of character, particularly its close resemblance to the pus of suppurating wounds or abscess (where no physical sign of pulmonary abscess existed), made the existence of the most profound catarrhus lesion of the mucous membrane of the air-tubes a strong probability.

The sudden evacuation of the pus almost exclusively by severe paroxysms of coughing after considerable intervals of rest, the copiousness of the expectoration, the mixed appearance of the sputum,—some of it being evidently recent, some older, greenish-coloured, and in process of decomposition, also the retention of so large an amount of expectoration, during such lengthened intervals, without provoking cough, or threatening suffocation,—tended, in the absence of the physical signs of cavity or abscess, to make highly probable the existence of extensive dilatation of the air-tubes.

He regarded the case as being the more valuable, inasmuch as it belongs to a group quite distinct from the interesting series of cases of dilated air-tubes so ably investigated by Dr. Stokes of Dublin.

On Expectorated Coagulable Lymph.

The correspondent who furnishes us with the reports of this Society, states, in reference to Mr. Pittard's remarks in our last number (page 1048), that the woodcut at page 825 was intended merely to represent the two principal rudimentary structures of the morbid matter—viz. the fibre and globule—in a convenient form. Having long employed the microscope in pathological investigations, he is quite familiar with the vegetable formations seen in sputa, whether recent or long kept. The appearances were strictly as related in the report, and could not be confounded with any confervoid growths or animalcula: they were simply fibres and globules of a description of lymph assuming the fibre-organisation.

Medical Intelligence.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON.

The anniversary festival, to commemorate the opening of the new building of the Hospital for Consumption and Diseases of the Chest, Brompton, was held on the 9th inst. at the London Tavern, Bishopsgate Street. His Royal Highness the Duke of Cambridge acted as President on the occasion. From the report by the Secretary it appeared that there were at present 60 beds occupied in the new building, and that

there was reason to hope that by the liberality of the public the number might soon be increased to 100, which was the number the building was adapted to accommodate. It also appeared that there were 70 persons on the books of the institution waiting for admission. The noble chairman, in proposing the toast of the evening, said that he felt much satisfaction in being able to inform the company that he had on Monday last gone all over the hospital, and that all that he had witnessed on that occasion convinced him that the institution was in a condition which reflected the highest credit on the gentlemen who were engaged in its management. Mr. Philip Rose, the honorary secretary of the institution, said that during the five years that had elapsed since its establishment, its benefits had been extended to upwards of 7,000 persons. A list of subscriptions was then read, among which were, £20 from his Royal Highness the Duke of Cambridge, £100 from Miss Elizabeth Cox, £100 from Mr. Philip Rose, £50 from the Earl of Harewood, and several other large donations. The sum collected amounted to £2,100.

DEATHS IN LONDON DURING THE QUARTERS ENDING MARCH, 1846-7.

Causes of Death.	Quarters ending March	
	1846.	1847.
ALL CAUSES.	12376	15289
SPECIFIED CAUSES.	12322	15245
Small Pox	77	82
Measles	401	99
Scarlatina	221	196
Hooping Cough	767	544
Croup	79	67
Thrush	35	38
Diarrhoea	119	178
Dysentery	20	34
Cholera	7	3
Typhus	410	442
Sudden Deaths	137	173
Hydrocephalus	488	440
Apoplexy	329	368
Convulsions	511	619
Bronchitis	758	1661
Pleurisy	33	67
Pneumonia	946	1390
Asthma	244	625
Phthisis or Consumption	1571	1823
Disease of Lungs, &c.	160	251
Pericarditis	17	29
Aneurism.	18	14
Disease of Heart, &c.	420	623
Teething.	129	143
Childbirth	101	146
Violent Deaths.	434	394

INFLUENCE OF SEX AND AGE ON DEATHS IN THE METROPOLIS.

THE last Quarterly return of the Registrar-General furnishes some interesting information on the proportionate deaths in the

population according to *age* and *sex*. The table is deduced from the population returns of 1841, and from the deaths registered in the seven years 1838—1844. We need hardly observe, that these facts are of the highest importance in estimating the mortality of special diseases.

In these tables the calculation is based on 1000 living at the respective ages—males or females; and eleven different periods of life are taken.

Ages.	Number of Deaths.	
	Males.	Females.
Under 5 years . . .	93	80
5 and under 10 . . .	12	11
10 " 15 . . .	5	5
15 " 25 . . .	8	6
25 " 35 . . .	11	9
35 " 45 . . .	18	14
45 " 55 . . .	27	20
55 " 65 . . .	48	38
65 " 75 . . .	92	78
75 " 85 . . .	184	162
85 " 95 . . .	319	303

It will be perceived by this table that there is only one quinquennial period of life, (between 10 and 15 years) at which the mortality in the sexes is equal; and this falls at a period when the rate of mortality happens to be the lowest for both. Out of 1000 males or females living between the ages of ten and fifteen, the average annual number of deaths is not more than 5, or 1 in 200! Throughout the whole period it will be seen that the deaths of females at the respective ages are fewer, and that up to a certain period the difference in favour of female life progressively increases with age.

MEDICAL REFORM IN FRANCE.

THE French medical journals are completely filled with the details of the proceedings in the Chamber of Peers relative to the ministerial measure of medical reform. M. Florens lately proposed an amendment to the effect that there should be two classes of practitioners—licentiates and doctors of medicine, with special privileges. This was opposed by the ministers, and has been rejected by a majority of the peers. The French government has taken up the subject with such vigour that even political measures are for the present postponed in order that the medical bill may become law.

With respect to the English medical registration bill, nothing has transpired respecting the evidence given for or against the measure before the committee. It is reported that members deputed by the Scotch and Irish Colleges are now in town, waiting to give evidence on the proposed changes in the constitution and government of the medical profession.

ALTERATION OF THE QUARANTINE REGULATIONS.

It has been officially announced in the House of Commons, that ships with clean bills of health arriving in the ports of England, are now admitted to immediate pratique from whatever part of the world they may come, and with whatever cargo they may be laden.

HEREDITARY INSANITY.

M. BAILLARGER draws the following conclusions on this subject:—

1. Insanity on the part of the mother is a more frequent cause of its transmission to the offspring than the insanity of the father.

2. Insanity in the mother is more frequently transmitted to female than to male children. In the case of the father being affected, the reverse condition holds. Boys inherit it rather than girls.

3. In all cases the hereditary transmission of insanity is more marked on the maternal side and through female children.—*Gaz. Med.*, 12 Juin.

OBITUARY MEMOIR OF THE LATE DR. JOHN RAMSBOTHAM.

Few professional men, lately deceased, have passed through a life of more active usefulness than Dr. John Ramsbotham, whose name appeared in our obituary of May 7th. He was born at Bradford in Yorkshire, on June 30th, 1767, was a first child, and lost his mother, who fell a victim to puerperal fever, on the fifth day after his birth. His father was extensively engaged as a wool-broker, in a trade just then growing into importance in that part of the country; and, his occupation obliging him to pay frequent visits to the different manufacturing towns, over a large extent of country, and consequently carrying him much from home, he had little leisure to devote to the early education of his son.

The subject of this memoir, however, was fortunate in being placed at school with Mr. Dawson, near Bradford, a gentleman of considerable science and attainments, who, indeed, had assisted the celebrated Dr Priestley in most of his experiments with the gases. He soon became a favourite pupil with Mr. Dawson, and was his constant companion in the hours of relaxation. He thus early imbibed a taste for scientific pursuits, and chose for himself the profession of medicine. His father, who did not enter into a second marriage, removed into Lincolnshire, and died in the prime of life; and he himself was anxious to be apprenticed to the first Mr. Hey, of Leeds. But his guardians objected, considering the fee required more than they were justified in giving. He was

therefore placed in the house of a surgeon at Barnsley, in good practice, but a bachelor of easy disposition, who allowed him very soon to take upon himself the whole management as well of his household affairs as of his routine practice. He was thus from his first entrance into medical life thrown entirely on his own resources, and was obliged to fashion out for himself a course of study and of action.

Although he was disappointed in his favourite object of becoming Mr. Hey's apprentice, so strongly was he impressed with the advantages that he would derive from the tuition of such a master, that he entered himself as a pupil at the Leeds Infirmary as soon as the term of his indenture had expired; living while at Leeds in the house of Mr. Logan, also a surgeon to the Infirmary. There he remained about twelve months; after which he came to London for three years, attended the medical and surgical practice of Saint Bartholomew's Hospital, the practice at the Lock Hospital, and the lectures delivered at the Windmill Street School of Medicine. At this school he was happy in attracting the attention, and gaining the intimate friendship, of Mr. Craikhaak, Drs. Baillie, Pearson, Osborn, and John Clark, the latter of whom was at that period just rising into fame.

Having become a member of the College of Surgeons, he returned to Yorkshire, and settled at Wakefield, where, in 1795, he married the daughter and only child of Charles Wheen, Esq. of Bramwith-wood House, in the same county. He speedily formed a good provincial connexion; but not satisfied with the limited sphere that a country town afforded, he resolved on taking his chance in London.

In 1799, he removed to Richmond in Surrey, that he might take advantage of any eligible opportunity that presented itself of settling in the metropolis. Here also, under the auspices of Sir David Dundas, Sergeant-Surgeon to the King, he established a highly respectable and increasing practice. Still, his mind was bent on London; and after two years he joined Mr. Pirner, in Saint James's Street, who, as an apothecary, possessed the confidence of many families of high distinction. He continued in partnership with that gentleman for seven years; at the expiration of which time, as the obstetric branch of medicine was then beginning to attract more attention than it had hitherto done, he was persuaded by some friends, (among whom the late Mr. Ramsden, of St. Bartholomew's Hospital, was foremost,) to take his degree as Doctor of Medicine, and to offer himself in the city as a consulting obstetrician.

Early in his medical career he was impressed with the necessity of the public

being protected more than they then were, by obliging the general practitioner to follow a regular course of study, and submit to the test of examination; and while he was practising at the west end of London, he had an opportunity of assisting in carrying this object into effect, by taking an active part in the origin and formation of the "Association of Surgeon-Apothecaries of England and Wales,"—the society which, under the able presidency of the late Dr. Burrows, was chiefly instrumental in inducing the legislature to pass the well-known Apothecaries' Act of 1815.

On establishing himself in the city, he took a house in the Old Jewry, was soon elected assistant-physician to the Royal Maternity Charity, and, in 1815, succeeded Dr. Dennison in his residence in Broad Street Buildings, in his lectureship at the London Hospital, and in his appointment as physician to the above-named charity. From his first connexion with the Maternity he had the whole and undivided superintendence of about three thousand cases of labour annually, until the year 1827, when, on the retirement of Dr. Sims, he succeeded to the office of consulting physician.

In 1820, he published the first part of his "Practical Observations on Midwifery," and in 1832 the second part; a work of a thoroughly practical character, and based upon the personal experience he had gained in attendance on the cases of the Maternity Charity, as well as in a considerable field of private and consulting practice.

He was seized with a slight attack of paralysis of one side of the face and tongue in the summer of the year 1839. Being warned by this sudden stroke (which he thought might be the prelude to some more serious affection) of the necessity of relinquishing active practice, he retired at once to a few miles' distance from London; though he still continued for four or five years longer to see those patients who wished to consult him, at stated times, at his son's house in New Broad Street. He soon, indeed, recovered from this trifling seizure, never suffered a relapse, and enjoyed uninterrupted good health till a short period before his death. He was carried off within a few weeks of completing his 80th year, not by any acute disease, but by a gradual decay of vital power.

Two years ago he sustained a severe blow in the death, after a short illness, of his only daughter, who was married and lived at Page Green, in the parish of Tottenham, within a few minutes' walk of the residence he chose on his retirement. To this daughter he was fondly attached, and never entirely regained his accustomed cheerfulness after that sad event. His widow and two sons survive him. He inherited no property

from his father, but was enabled to prosecute his studies and start in life by the settlement made upon his mother at her marriage, which devolved upon him, as the only child, in right. After he had commenced practice at Wakefield, indeed, he paid some considerable debts, which his father, who was a careless and extravagant man, had left unliquidated.

In person he was tall, and of a handsome commanding countenance. He was, throughout his life, fond of society, and hospitable in a high degree. The chief trait in his character was an uncompromising love of truth; and a corresponding detestation of duplicity, under whatever form it shewed itself.

One of the associations to which he used to look back, even to the last, with the greatest satisfaction, was his connexion with a club of gentlemen, twelve in number, who called themselves the "Athletæ," comprising, among other eminent professional names, those of Sir Astley Cooper, Drs. Cooke, Babington, Lettsom, Messrs. Norris and Vaux, and Professor Coleman. He was for nearly twenty years a member of this club, and was the last survivor of the party. It was originally designed to give its members a little periodical relaxation out of town, to afford them all the means of healthy exercise, and some of them an opportunity of athletic display, in various games requiring strength and agility. At its commencement it was held at a tavern a short distance from the metropolis; afterwards, as the members rose in public estimation, it was thought undignified to assemble at a common bowling green; and first Dr. Lettsom's elegant villa at Camberwell, then Dr. Babington's country house at West Green, became the scene of their gatherings. Later still, when time had stiffened the joints of its founders, and rendered their sinews rigid, it deviated into a dining and card party; and every alternate week brought them together at each other's houses. Mr. B. Cooper, in the "Life" of his uncle, relates some amusing anecdotes respecting this club. He states that Sir Astley was the last surviving member; but at the time of the renowned baronet's death Dr. Ramsbotham and another were still living.

JOHN V. BRIDGMAN, ESQ.

At Ham Common, Surrey, on Saturday, the 12th instant, John V. Bridgman, Esq. surgeon.

JOHN JAMES WILSON, ESQ.

On the 15th inst., at 52, Doughty Street, in the 46th year of his age, John James Wilson, Esq. surgeon, deeply and deservedly lamented.

Selections from Journals.

PHYSIOLOGICAL CHEMISTRY.

THE BILE.

Mode of procuring the resinous matter of bile.—According to the process employed by M. Blondlot for procuring this substance, the bile is first diluted with two or three times its weight of distilled water; then boiled with a sufficient quantity of animal charcoal, which has been previously washed in hydrochloric acid. The liquid is then filtered while hot, and evaporated on a sand-bath to perfect dryness. During the evaporation, the crust which forms on the surface of the fluid should be removed from time to time, in order to favour the free disengagement of the water. The residue consists of the resinous matter in a state of purity. This process, besides being exceedingly simple, seems superior to those hitherto employed, in the circumstance that no chemical agencies which are calculated to exercise any decomposing action on the biliary matter are put into play: animal charcoal and a temperature of 212° Fahr. being the only necessary agent required. The animal charcoal appears to remove not merely the colouring matter but also the mucous principle, of the bile, so that the liquid which passes through the filter has completely lost its viscosity, and possesses only a slight yellow tint, which latter it is impossible entirely to remove.—*Essai sur les fonctions du foie*, page 82.

Mode of separating cholesterine from the bile.—The bile is to be evaporated to dryness, at a gentle heat, then rubbed into powder, and digested for twenty-four hours in a vessel containing a sufficient quantity of ether. The vessel is to be frequently shaken during this period. The liquid is then to be filtered and evaporated, and the cholesterine which constitutes the residue to be treated with boiling alcohol. As the alcohol cools, the cholesterine crystallizes in the form of small white scales, which are rendered more apparent by the addition of water.—*Ibid*.

Mode of extracting the mucus of bile.—The mucous matter of bile may be procured by evaporating this fluid and treating the residue with alcohol, which removes the resinous principle and cholesterine, with part of the salts and of the colouring matter: the mucus then remains in the form of fine pellicles, similar to those which saliva and other fluids of like nature leave after desiccation. Another method of obtaining the mucus consists in adding to the bile a small quantity of acetic acid, which immediately throws down the greater part of the mucous matter.

But by far the most simple process is to pour the bile into a sufficient quantity of alcohol, whereupon the mucus is separated in the form of long threads which float on the surface.—*Ibid*, page 80.

Nature of the colouring matter of the bile.—Tiedemann and Gmelin, as well as most modern chemists, consider that the colouring matter of the bile, as also all other colouring matters of organic origin, present tints which increase or diminish in depth according as they contain more or less oxygen; and that the transition from yellow to red, green, blue, and violet, which the colouring matter of the bile manifests under the influence of certain reagents, is due essentially to oxidation. It seems more probable, however, that carbon, and not oxygen, is the substance which must be regarded as the principal agent concerned in the production of colour in these organic matters. For example, it is well known that, when concentrated sulphuric acid is placed in contact with almost any organic substance, it destroys such substance, and, at the same time, acquires a more or less black colour. This circumstance depends, without any doubt, on the great affinity of sulphuric acid for water, the formation of which it determines at the expense of the oxygen and hydrogen of the organic matter; so that the carbon, being rendered more and more predominant, finally appears with its characteristic black colour. Now, if one examines with attention the phenomena which are manifested in this simple experiment, it will be readily perceived that the colour becomes black only by degrees, and after having passed through different shades of yellow, red, brown, and violet. It is indeed true that these various tints are not well marked, and appear to be confounded one with the other; nevertheless, there are some substances which, treated thus with sulphuric acid, produce much more strongly-marked colours: such, for example, are the resinous substances, and especially the biliary resin. If a small quantity of this substance be placed in concentrated sulphuric acid, it will be observed, during its decomposition, to present a series of distinct and well-marked colours. The liquid becomes at first yellow; then orange, red, lilac, green, blue, or violet; and, lastly, black. Now it is evident that in this case the colouring matter has acquired a tint the depth of which has increased in proportion as the carbon became more predominant. And analogy leads to the conclusion that a similar view may be held in regard to other colouring matters of organic origin. The colouring matter of the bile, therefore, is deeper according as it is richer in carbon; and, in cases where the colour is very dark, the

colouring matter appears to consist almost entirely of carbon. This is well shewn also in the fact pointed out by Berzelius, that there exists one kind of biliary calculus which appears to be principally composed of carbon.—*Ibid*.

OPHTHALMOLOGY.

FOLLICULAR EXCRESCENCES OF THE EYELIDS.

At the last quarterly meeting of the Bath and Bristol Branch of the Provincial Medical and Surgical Association, Mr. Estlin read a short memoir upon tumors resembling warty excrescences that grow upon the eyelids and face; he had been accustomed to designate them, in the Annual Report of the Bristol Eye Dispensary, as "soft warts." They vary in size from a pin's head to a small hazle-nut; their base not smaller than the projecting part, the white tumors shining through the skin. A minute aperture is observable in them, from which, in the larger ones, a white substance, of the consistence of butter, can be pressed out. Their contents cannot, however, be thus entirely evacuated, as each excrescence consists of a cluster of minute encysted tumors. When occurring elsewhere, the larger tumor has usually near it several smaller. Many medical men are familiar with them: they are chiefly seen at ophthalmic institutions. In the last ten years, during which time 20,941 patients attended the Bristol Eye Dispensary, eighty cases of these tumors occurred. The disease is probably that described by Mackenzie as "albuminous tumor of the eyelids," and unencysted. The contents, however, are proved by the microscope to be epithelial cells; and Mr. Estlin considers their investing membranes well entitled to the appellation of cysts. Middlemore speaks of them as encysted tumors arising from an enlargement of a mucous follicle. Guthrie gives them no particular name, but calls them encysted, and describes the appropriate treatment. Others regard them as of the nature of *molluscum*. Some consider them as infectious. Mr. Estlin is inclined to this opinion, though he disbelieves the vulgar notion of the infectious character of the ordinary cuticular warts of children: they are probably diseased sebaceous follicles.

Their treatment was the principal object Mr. Estlin had in view in bringing this point of minor surgery before the meeting. He met with medical men who were teased by the management of these little tumors, and he formerly was so too. Lunar caustic, though freely applied, will often not get rid of them for weeks; nor will potassa fusa, unless so employed as to destroy the whole external surface of skin, which is firmly united to the tumor by vascular connexion.

The most expeditious and least painful method is to slit them quite through with a lancet or cataract knife, passed perpendicularly to their bases, and then forcibly to squeeze the separated halves, with the thumb-nails placed on the sound skin, till the contents are fairly turned out of their lodgment. The force required to do this will sometimes bruise the skin a little; but in two days the part is usually healed. The tumors, when thus removed, are found to be lobulated, appearing like miniature brains. If they resist considerable pressure, the loosened portion may be taken hold of with forceps, and thus the whole extracted. This practice may be employed when the tumors have begun to inflame or suppurate. Smaller ones usually disappear without treatment: their chief annoyance arises from the inflammation they occasion in the eye and Eids. Children are the chief subjects of the affection. Mr. Estlin has noticed that either the children with this malady bear pain with great composure, or the tumors possess little sensibility; for it is remarkable how little complaint is made, however roughly the tumors are treated.

Dr. W. Budd had seen several cases of the disease, and had distinctly ascertained its propagation by contagion. He remembered particularly the case of a nurse, who, from nursing a child suffering under one, had a crop of similar tumors appear on her temple, where the child occasionally laid its head. She then went home, and conveyed the disease thither. Besides, it was not unusual to find them on the necks of those who nursed children affected with them.—*Provincial Medical and Surgical Journal.*

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, June 5.

BIRTHS.		DEATHS.		Av. of 5 Yrs.	
Males....	706	Males....	426	Males....	408
Females..	619	Females..	360	Females..	446
	1325		786		914

DEATHS IN DIFFERENT DISTRICTS.

(24 in number;—Registrars' Districts, 129.
Population, in 1841, 1,915,104.)

WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326)	124
NORTH—St. Marylebone; St. Pancras; Islington; Hackney .. (Pop. 366,303)	143
CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London .. (Pop. 374,759)	147
EAST—Shoreditch; Bethnal Green; White-chapel; St. George in the East; Stepney; Poplar .. (Pop. 393,247)	148
SOUTH—St. Seivious; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich .. (Pop. 479,409)	226
Total	786

CAUSES OF DEATH.

CAUSES OF DEATH.	Spring
ALL CAUSES	786
SPECIFIED CAUSES	786
1. Zymotic (or Epidemic, Endemic, Contagious) Diseases ..	160
Sporadic Diseases, viz.—	
2. Dropsy, Cancer, &c. of uncertain seat ..	95
3. Brain, Spinal Marrow, Nerves, and Senses ..	122
4. Lungs and other Organs of Respiration ..	202
5. Heart and Bloodvessels ..	20
6. Stomach, Liver, and other Organs of Digestion ..	77
7. Diseases of the Kidneys, &c. ..	9
8. Childbirth, Diseases of the Uterus, &c. ..	12
9. Rheumatism, Diseases of the Bones, Joints, &c. ..	11
10. Skin, Cellular Tissue, &c.	3
11. Old Age ..	37
12. Violence, Privation, Cold, and Intemperance ..	29

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	14	Convulsion	33
Measles	34	Bronchitis	39
Scarlatina	4	Pneumonia	44
Whooping-cough ..	23	Phthisis	100
Typhus	51	Dis. of Lungs, &c. ..	10
Dropsy	14	Teething	8
Sudden deaths ..	5	Dis. Stomach, &c. ..	10
		Dis. of Liver, &c. ..	5
Hydrocephalus ..	29	Childbirth	5
Apoplexy	26	Dis. of Uterus, &c. ..	5
Paralysis	13		

REMARKS.—The total number of deaths was 128 below the weekly average.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer	30.23
" " Thermometer	62.3
Self-registering do. max. 114.8 min. 33.5	
" in the Thames water ..	70.5 — 66.5

a From 12 observations daily. b Sun.

RAIN, in inches, 0.0: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 3.6° above the mean of the month (58.7°).

NOTICES TO CORRESPONDENTS.

Inquirer.—The oxide of silver is easily decomposed by essential oils and all hydro-carbonaceous compounds, among which creosote may be placed. This decomposition is aided by friction, and would account for the chemical changes observed by our correspondent. If the oxide be procured by adding ammonia to the nitrate of silver, it may be sometimes mixed with Berthollet's highly fulminating compound, the ammoniuret of silver. This is always formed when potash is added to a mixture of nitrate of silver and ammonia.

Dr. Budd's third Croonian Lecture is unavoidably postponed until our next number. The communications of Dr. Wood and Dr. Coley are also reserved for this number, which will complete the first volume of the present year. We are obliged to Mr. Lawrence for the lecture which he has forwarded to us. It shall have early insertion in the new volume.

Dr. Dick's request shall be attended to.

ERRATUM.—In our last number, at p. 1053, c. 1, 14 lines from top, for "sincere," read *severe*.

Lectures.

COURSE OF SURGERY.

Delivered in the years 1846 and 1847,

By BRANSBY B. COOPER, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

LECTURE IV.

Irritability—healthy—morbid—Sympathy—Collapse—Irritative fever—Hints concerning phlebotomy—Dissecting-room wounds—their treatment—Treatment of irritative fever—Treatment of the local inflammation giving rise to it—Chronic and strumous inflammation, and treatment.

On Irritation—Irritative Symptomata, or Symptomatic Fever.

HITHERTO we have considered only the local effects of inflammation, such as are recognised by demonstrable phenomena; but we have yet to consider the effects produced on the constitution by the irritation set up by this local disturbance.

Every local injury of the periphery of the body is liable to become a source of irritation, and to affect the constitution generally. This susceptibility to receive the impression is termed *irritability*. Such persons, therefore, as are constitutionally predisposed to be affected by trivial external impressions, are said to be of an irritable, or nervous temperament. But irritability is not to be considered as always inducing a diseased action in the body; for, on the contrary, its baneful effects are only exceptions to the rule, while its beneficial influence is constantly exciting and supporting the most important and vital functions in the animal economy. The inherent irritability of the muscles renders them capable of contraction upon the application of a stimulus. The heart contracts, from the stimulus excited on it by the presence of the blood; the peristaltic motion of the intestines is maintained by the stimulus of their natural contents; the brain performs its functions under the stimulus of arterial blood; and, indeed, every organ possesses a susceptibility to be impressed by some stimulus which excites and maintains its natural actions. It is through the medium of the nervous system, when duly supplied with healthy blood, that the various appropriate stimuli are conveyed to every organ in the body, and that the various functions are performed which constitute health.

In consequence of the free communi-

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cation of the nervous filaments over every part of the body, stimuli not only produce their effects upon those parts to which they are immediately applied, but remote organs are also influenced, and many natural functions are thus sympathetically excited—as, for instance, the sympathies between the uterus and breast. Thus we find, that, soon after conception, the mammae are excited to an active state, to prepare them for the support of the infant directly it is launched into a comparatively independent existence. Upon any foreign body irritating the glottis, the expiratory muscles are put into violent action, and the substance is expelled: the stimulus from the presence of the urine in the bladder, and of the feces in the rectum, induces the necessity for the evacuation of their natural excretions.

Such are a few of the examples of the healthy effects of irritation; but sometimes irritation is a source of unnatural sensations, and which, gentlemen, are most useful for you to understand, as they frequently assist you in forming a just diagnosis of the disease which induced them. For instance, in disease of the hip, it is not uncommon for the patient to make but little complaint of suffering in the affected joint, but to refer all his uneasiness to the knee. Those suffering from stone in the bladder, complain of pain at the extremity of the penis. From the same cause, persons who have submitted to amputation of the arm still complain of painful sensations of the fingers: the two first cases shewing that pain is usually referred to the sentient extremity of a nerve; and the last proving that the actual seat of sensation is not in the extremities of the nerves, but in the brain itself. Thus, when we strike the ulnar nerve against the internal condyle, the little and ring fingers suffer inconvenience as much as the part on which the violence was inflicted.

These are but instances of inordinate local sensation; but *diseased action* may be ultimately produced if this source of irritation keeps up the sympathetic sensation of the distant parts, for any great length of time, inducing "an altered action by an unnatural impression," which is the definition Sir Astley Cooper has given of irritation.

We have instances of this morbid action being set up by continued and direct nervous sensation at a distant part exemplified by the disease of the knee which sometimes follows the morbid sensation induced by disease of the hip. Swellings of the breast sometimes result from disordered functions of the uterus, giving a good instance of a morbid action being set up by a sympathetic influence, although it must be remembered that this may also result from a general constitutional impression, and not merely from

a local sympathy. So, also, when we find the testicle becoming affected in inflammation of the urethra, it is not so much to be attributed to sympathy, to which it has been referred, as to the direct continuity of tissue from one organ to the other, and consequent extension of disease.

The direct local effects produced by a continued source of irritation often offer very anomalous symptoms, and lead to considerable difficulty in discovering the source of irritation. How often is it found that ulcers in the cheek and lower jaw are resulting from a diseased tooth, the abstraction of which cures the sore at once, even after every escharotic had failed to produce a cure! I have seen ulcers on the tongue which had been pronounced malignant, cured at once by the drawing of a tooth which had been the continued source of irritation, so as first to produce the sore, and, secondly, to establish it.

A banker from Cambridge consulted me a few years ago with a considerable swelling on one side of his face, attended with foetid purulent discharge from the nose, and many of the signs of malignant disease of the antrum. I proceeded to examine the mouth, in the hope of finding a decayed tooth which might explain the nature of the injury, and, by its abstraction, relieve the symptoms, although I feared there was also some constitutional defect, from the severity and nature of the symptoms. I could not find, however, any decayed tooth, nor, by striking them with a key, could I by this kind of "sounding" produce any sensation of pain in the diseased antrum. I could not, therefore, feel the propriety of ordering any particular tooth to be drawn. I observed that there was one molar tooth wanting, and I asked my patient why and when he had had that tooth drawn; to which he answered that it was a curious fact that he had never cut that tooth, yet there was a sufficient interval of space for its growth and descent. It immediately struck me that this anomaly might be the cause of all the mischief, and I recommended him at once to consult Mr. Cartwright, who, directly he looked into his mouth, said, "I have but once before seen a similar case, and have no doubt, sir, but that the deficient tooth is growing upwards into the antrum, instead of downwards in its natural direction," and recommended him immediately to submit to its abstraction, which operation Mr. Cartwright performed at once, with his wonted dexterity. In two months this gentleman was perfectly recovered, notwithstanding the protracted period that the diseased action had been maintained.

I once performed an operation on the lip of a gentleman, for the removal of a suspicious tumor, and had great difficulty in

producing union in the upper part of the incision: indeed, a fistulous opening formed, and no means I could adopt produced the desired effect. Upon examination, I found one of the incisor teeth prominent, and, suspecting it might interfere with the healing of the wound, had it drawn, and the wound healed directly. Now I do not mention this case merely to explain how the pressure of the tooth mechanically acted in preventing the union of the wound, but to offer the opinion as to the probability of its producing the original disease by its constant source of irritation to the lip, and that the drawing of the tooth might have precluded the necessity of the extirpation of the tumor.

A blow on the head not only produces vomiting and other sympathetic effects on important organs, interfering with the secretions generally, but it often leads to subsequent ill effects, from the continued irritation leading to thickening and altered structure of the dura mater. The son of a medical friend of mine had a blow on the forehead, which produced immediate sickness, followed by a general derangement of the organs of digestion, which yielded but slowly to the usual medicines and strict dietetic discipline; but in about six weeks he was allowed to return to school. Shortly after, he again complained of pain in the head, giddiness, loss of appetite, and occasional nausea, when he was obliged to leave school, and return home. I was again requested to visit him. I found him pale, dejected, and complaining of a local pain on the right side of the forehead at the exact spot on which he had received the blow, attended with a listlessness, and some slight intolerance of light. On examining the part, I found it somewhat prominent and puffy. I proposed to cut down upon the bone, which was acceded to, and a small quantity of glairy fluid was evacuated. The bone looked dry, and of an ashy colour. The next day the symptoms were mitigated; in a short time the external table of the affected bone exfoliated; granulations arose from the diploe; all cerebral symptoms vanished; and in three weeks the boy was perfectly recovered. This case is the more valuable, as it shews to what extent cerebral symptoms may be present without any disease of the brain; the actual disease here being confined to the external plate of the calvaria.

Every surgeon must have witnessed the effects produced on the constitution sympathetically from a local cause; for instance, the faintness which is often produced by the passing of a bougie, even when no disease of the urethra has been detected. I therefore always in performing this operation take the precaution of placing my patient in a room-

bent posture, first to prevent the possibility of his falling, and secondly because he is much less liable to be seized with syncope, while lying down.

The symptoms which I have hitherto described as resulting from local irritation, have been principally referable to the impressions they have produced on the nervous system, affecting some distant part by direct continuity, and without any corresponding impression on the circulating system; but there are phenomena yet to be explained, resulting from local irritation, in which the inordinate action of the heart and arteries constitutes the principal feature of the disease.

Febrile symptoms, technically termed pyrexia, very frequently follow the changes produced by local inflammation, and to distinguish it from idiopathic or primary fever, which usually results from malaria, it is termed

Irritative, symptomatic, or secondary fever.—This condition has, I have already said, been defined by Sir Astley Cooper "an altered action excited in the body by an unnatural impression." It is not, however, the severity of the impression which leads to the febrile action, for when the injury inflicted is very violent, so great indeed, that nature seems incompetent to the reparation, the heart's action is diminished instead of excited, and collapse supervenes. This we find to occur from a blow upon the abdomen, producing a rupture of the intestine, or lesion of the liver, spleen, or some other important organ; and when the collapse results from such a severe cause, reaction does not take place, but the patient dies from the cessation of vital function. Thus you may often judge of the nature of an injury by the immediate effects on the constitution, even when there are no external contusions or other signs of the degree of violence inflicted.

But the presence of collapse is not the certain sign of approaching dissolution, for an accident may be sufficiently severe to produce collapse for a time, from which the patient may, sooner or later, recover, and reparative action be restored. This we frequently find to be the case after severe compound fractures or lacerations into joints, or extensive burns or scalds, when in fact no vital organ is injured, but the collapse has occurred only from the sudden shock to the nervous system.

During the existence of the collapse, from either cause, it is impossible to tell the actual extent of injury sustained; in fact, to form either a correct diagnosis or prognosis. The practice to be adopted, therefore, is merely to place your patient in bed in a comfortable and equable temperature, and to wait for reaction, but should the collapse be protracted to an

alarming period, gentle stimuli should be administered.

In such cases as described, as when collapse occurs concomitantly with compound fractures, no surgeon would think of amputating until reaction is re-established. As I have used the term collapse, it becomes necessary that I should describe to you the symptoms by which you may recognise it. The patient's countenance is pale; the surface of the body cold and clammy; the pulse scarcely to be felt, and sometimes fluttering; and the patient complains of little or no pain, although his mind remains unaffected, which last circumstance forms the great distinction between collapse and the symptoms of concussion of the brain.

When reaction has taken place, or when febrile symptoms result from local injury, without any collapse having preceded it, then *irritative* or secondary fever is established, and may be recognised by the following symptoms:—The patient complains of a feeling of debility, and a sensation of chilliness, alternating with an increased heat of the skin, a quick, small, and sometimes a hard pulse, thirst, loss of appetite, and a white furred tongue, head-ache, a general suppression of the secretions and excretions, with more or less derangement of most of the natural functions of the body. The severity and character of these symptoms are liable to great modifications according to the age, sex, and constitution of the patient, as well as to the seat and severity of the local inflammation.

When the constitution is thus affected by secondary fever, it is only to be distinguished from idiopathic by a strict investigation into the cause and history of the symptoms which first evinced a deviation from health, and which may prove sufficient to form a diagnosis; but the presence of any local source of irritation will solve the question at once. It may be very questionable whether what is termed idiopathic fever ever exists, for although the exciting cause giving rise to the constitutional disturbance may, from its situation, be very difficult to detect, it is hardly to be believed that such an action can be set up without some exciting cause. It is said—and a most important fact it is, if it be correct—that rigors more frequently mark the commencement of idiopathic fever, than fever arising from a local cause, unless from abscess. Pyrexia generally succeeds the manifestation of local symptoms, but this is not invariable, for in eruptive diseases of the skin febrile symptoms precede the manifestations of this local disease.

The degree of irritative fever arising from external injury, depends as much upon certain local conditions as it does upon constitutional circumstances; as, for instance, the *mode* in which the injury was inflicted. The

extent of the injury, and the *nature* of the tissue injured, as to its high or low degree of vitality; these are all subjects for the surgeon's consideration.

With respect to the *mode* in which the injury was inflicted, much may be judged of from the appearance of the wound—as to whether it were incised, punctured, lacerated, or torn away as by gun-shot wound.

As to the *parts* injured, it is necessary to ascertain whether bones be broken, ligaments or tendons torn, joints laid open, nerves lacerated, or blood-vessels ruptured.

The *extent* of the injury is to be examined as to depth and complication of tissues injured, and the age, habits, and general state of health of the injured person is also a most important subject for investigation.

It is only with a due consideration of all these facts that you can be enabled to judge of the best means which are to be employed, both locally and constitutionally, for the recovery of the patient; whether a limb is to be sacrificed, or whether attempts are to be made for the recovery from the injuries inflicted, without amputation. This alternative is only to be decided by a strict examination into the constitutional powers of the patient, so that you may be enabled to draw a correct judgment between the lesions sustained and the chances of their restoration under the particular condition of the patient's restorative powers. But with all this caution, the severest constitutional symptoms will sometimes follow local injury, and the symptom I have described supervene with greater or less severity.

The highest degree of irritation, under certain circumstances, in persons for instance of an irritable temperament, I have known follow the most trivial local injuries, as a mere puncture from a small splinter of wood, or the removal of a little tumor from the scalp. A lady consulted an eminent surgeon in this town, a few years ago, upon the subject of a small encysted tumor on the vertex of the head. The surgeon said, "Madam, I will take it out at once, the operation is perfectly free from danger, and he at once removed it." That evening the lady was restless, and passed a sleepless night; the next morning she had rigors, erysipelas supervened, and in a week she was a corpse. No operation, gentlemen, however trivial it may be, should be performed without due preparation. The shock made upon some minds by being told of the necessity of cutting, of "performing an operation," produces a condition unfitted to be exposed at once to such an ordeal;—avoid it, therefore; take prophylactic precautions; but even with due preparation, slight causes may yet produce dangerous consequences.

You have at this moment, gentlemen, an opportunity of observing a case of severe constitutional irritation following a slight local injury, in the case of the young woman in Charity ward. She applied to me first at my house, for a ganglion on the dorsum of the foot. I tried to burst it with a blow, but could not succeed. I then blistered it, but with no better effect. I recommended her, as she complained much of inconvenience from it, to come into the hospital; and after she had been a week in this institution, that she might become accustomed to the air, diet, and habits of the place, I laid the tumor open. No ill effects followed; the wound healed, but the distension of synovia returned so soon as adhesion had again converted the secreting membrane into a closed sac: so again I failed. After waiting a short time, I had the foot and ankle-joint confined in splints so as to prevent any motion, and passed a single thread through the ganglion: the introduction of the seton gave no pain. A poultice of bread was ordered to be applied over the whole foot. During that night she was restless, but did not complain of pain: the next day but one I was requested to see her by my dresser. I found her with a white furred tongue, a quick and rather hard pulse, a hot skin, anxious countenance, and bowels rather costive. She complained of headache and sickness, the dorsum of the foot was inflamed, and red lines marked the course of inflamed absorbents along the inner aspect of the leg. I immediately withdrew the seton, and made a small opening in the upper part of the ganglion which fluctuated, and ordered her a powder composed of calomel, James's powder, and opium, with effervescent saline draughts; my object being to restore secretions, and allay irritation. On that night she had slight delirium: towards the morning she perspired freely, her bowels were opened, she fell into a comfortable sleep, and upon awaking described herself as feeling "quite a different person." From that moment all her dangerous symptoms subsided, and she perfectly recovered her health, and at the same time was cured of her local complaint. Now, gentlemen, none of these symptoms are found to result from passing a seton through the skin and subcutaneous cellular tissue, although they so frequently follow their introduction through a serous sac,—offering an excellent proof of the modifications of constitutional symptoms from the kind of tissue affected, and tending therefore to the necessity of due precautions before such structures are interfered with.

Upon the first indication of constitutional disturbance, the source of irritation should be removed, and the after treatment is to be regulated by the symptoms which may yet remain. When constitutional

irritation is present, and can be traced to the existence of any exciting cause, as the intrusion of any foreign body, or upon the formation of pus, the surgeon at once understands that by the removal of the cause he will relieve the febrile action, and, therefore, he does not attempt to prescribe for the symptoms until he has succeeded in that object.

But it is equally important to remember that the constitution may be the principal source of the general disturbance, without any local cause: there need not exist any continued local irritation, no severity of accident, no peculiar tissue injured—there may be, in fact, nothing to be removed; but a simple wound inflicted upon a highly irritable constitution may alone be sufficient to produce all the mischief, and indeed to react upon the slight local injury.

Under these circumstances, the remedies must be first directed to the disordered state of the system, and when that has been corrected, remedies may be applied to the external cause. We have instances of this kind arising, sometimes, from the simple operation of bleeding: being followed by inflammations of the wound, diffused inflammation, non-union of the incision, escape of a small quantity of pus, high constitutional irritation, inflammation along the absorbents up to the axilla, rigors, pain in the axillary and pectoral regions, formations of abscesses, flushed and anxious countenance; first a white, and then a brown tongue; thirst, sweats, frequently a yellow tint on the skin, delirium, and death. Upon a post-mortem examination of the injured arm, a diffused effusion of sero-purulent discharge will be found along the whole course of the injured limb, from the wound made by bleeding, to the seat of the abscess under the pectoral muscle: if the veins be laid open, they will generally be found to contain some pus globules floating in the blood, and sometimes in the descending cava itself. This disease, gentlemen, is termed phlebitis, and is very generally believed to depend on the inoculation of some animal poison. I must say, however, I believe it to depend upon the peculiarity of the constitution at the time the patient is bled, and not upon a foul lancet, to which it is so frequently attributed. I would recommend you, gentlemen, therefore, instead of directing the whole of your attention to the cleanness of your lancet, before you bleed a patient, at any rate to study the peculiar symptoms for which bleeding may seem to be indicated. If irritability be a prominent feature, depend on it, loss of blood not only will be useless, but lead to the liability of the mischief just described. Were it the *poison from a lancet*, how much more frequently might we expect

to meet with these cases, than fortunately they occur. Rest assured, it is the constitution which is at fault, for the same symptoms are not unfrequently met with without the infliction of any wound what ever.

I should say, however, that I by no means intend to imply that you should be careless as to the use of a clean lancet, as you may produce various diseases by the inoculation of a virus, but which, I am disposed to believe, would produce very different symptoms to those I have just described.

The habits of life will alone predispose patients to constitutional irritation, and produce a very marked influence and modification of the symptoms. Only watch the patients who are admitted into "Accident Ward" of this hospital. See the brewer's drayman brought in with a fractured limb: accustomed as he has been to constant excitement from the use of porter, and ardent spirits, we never think of bleeding him, or of the employment even of more simple antiphlogistic means, than the mere evacuation of the bowels; increasing the action upon the skin, and indeed by securing, in the gentlest manner, a natural supply of the secretions; which being achieved, opium, porter, and nourishment, may generally be safely prescribed. But in a country hospital, in agricultural districts, the treatment of a patient under the infliction of a similar accident would be very different; here bleeding is very generally required, or at any rate strict antiphlogistic means, for bleeding, now a days, is comparatively rarely employed; but other means are substituted just as competent to the same ends; as tartarized antimony, purging, &c.

We, ourselves, when we first came to town from the country, with our constitutional powers vigorous, from the purity of the air we had just left, the regularity of our habits, and influence of the due discipline of our parents' fostering care, could cut our fingers in the dissecting-room with impunity, run the dissecting hooks into our flesh, and even lacerate our hands with the broken ribs, without suffering; but in the second and third winters, how cautious we become! example had warned our judgments, and the death of fellow pupils of *our own age* (I was wont to say), revealed the truth that we are not, as we were, in vigorous health, but that our constitutional powers are diminished, although at the same time our irritability is increased; we are reduced, in fact, to that condition of health, or I might have said want of it, which renders the powers of reparation weak, and the tendency to excited and diseased action strong and formidable. A virus may in some few cases prove the exciting cause: a subject which had died of small-pox, or venereal disease, would doubt-

less affect you, but the train of symptoms would indicate the nature of the poison; unless, indeed, the mere wound induced the same train of symptoms as if no poison had been present, under which circumstances nothing could be attributed to the influence of infection.

When you have just reason to believe that you have become infected by a wound from a diseased subject, you will be right to apply caustic to the part for the purpose of destroying the poison, but when you cut your finger under the usual circumstances in dissection I repudiate that plan, and believe it leads to most injurious effects, by increasing the local irritation, and consequently the liability to constitutional disturbance. Wash the wound well in tepid water, put a large poultice on immediately, carry your arm in a sling, gently open your bowels with a small quantity of calomel, James's powder, and rhubarb, followed up with saline draughts, and go at once into the country for a week, and depend on it very few of you will take any harm. How is it that the superintendent of our inspection room, who sews up every body after post-mortem examination, never becomes laid up from abrasions inseparable from his occupation? Were it a poison which produced the mischief, it would be impossible he could escape from its effects, for no condition of health can escape from the inoculation of a virulent poison, as of syphilis, small-pox, vaccine matter, or any virus, if conveyed into the sub-cutaneous cellular tissue.

Irritative fever, when once produced, may be very difficult to distinguish from idiopathic pyrexia, from the peculiar type or character it may assume. Thus, in cases of stricture attended with effusions or abscess in the perineum, an intermittent type of fever frequently supervenes, but all the bark in the world will not check the periodical paroxysms unless you discharge the offensive irritant by free incisions. Long-continued discharge from an abscess leads to hectic, while sphacelus and gangrene induce a typhoid form of fever,—more particularly when sloughing occurs in the neighbourhood of the rectum and pelvic viscera generally. Now, gentlemen, in considering all the varieties of exciting causes inducing secondary fever, and the modifications of the symptoms resulting from the local and constitutional peculiarities, you may readily suppose there are considerable difficulties in the choice of the appropriate remedies, and that no general rules can be adopted.

Treatment of secondary or symptomatic fever.—The peculiar character of the symptoms, as modified by the constitution of the patient, must be the principal indication of the remedies to be employed; for, what-

ever may be the local cause inducing the constitutional derangement, all the variations in the symptoms result from the general state of health of the patient. But it often happens that the local inflammation, either from the constitutional vigour of the patient, from the mildness of the attack, from the tissue affected, or the judicious topical remedies applied, subsides by what is termed resolution, without producing any secondary fever,—shewing that topical as well as constitutional remedies are equally important for surgical consideration. As the exciting cause must first call attention, I shall begin with the topical treatment.

The first object necessarily must be to moderate the local inflammation, and to attempt to produce its termination in resolution; for in many cases, without the application of topical remedies, the inflammation would be sure to proceed to gangrene.

If any removable source of irritation can be detected, such as the intrusion of any foreign body, or a spicula of bone in fracture, or a deep-seated abscess, it must be abstracted, or the constitution would surely be very soon sympathetically affected. Should no such source of irritation be detected, and still the local action be increasing, antiphlogistic remedies should be adopted, both generally and topically, with an activity proportionable to the patient's powers. In a healthy vigorous person blood-letting is advisable generally as well as topically—generally, in a prophylactic view of diminishing the liability to sympathetic or secondary fever, and to lessen the influx of blood to the inflamed part; and topically, by leeches, to relieve the active congestion already established. This depletion must, however, be cautiously and judiciously employed, and can only be regulated safely by a due attention to the character of the inflammation, modified, as that might be, by the constitution of the patient and the nature of the tissue affected. You may charge me, gentlemen, with having repeated this sentence tediously often, but I have done so advisedly, as I feel assured that the treatment of inflammation can only be safely regulated by attention to these facts; that is, whether the inflammation to be treated is influenced by a sanguineous temperament, producing what is termed a sthenic condition, or whether the inflammation is accompanied with typhoid or asthenic symptoms: or thirdly, if the local affection be modified by chronic or scrofulous inflammation. With these views, it is clear that the treatment may be directed and applied either to the constitution or to the part immediately affected, constituting what is termed constitutional or topical means of cure. I shall first speak of those symptoms which indicate antiphlogistic remedies, and

the most powerful of any is blood-letting, which is had recourse to under the following circumstances:—First, if the peculiar temperament of the patient require it, the indication will be a strong vigorous constitution, with a sanguineous temperament, and a hard pulse, in which case the removal of a proper quantity of blood not only diminishes the force of circulation but at the same time allays nervous irritability. The effect the loss of blood has upon the nervous system is exemplified by the syncope which is produced by the removal of only a small quantity if taken from a patient in the erect posture: this phenomenon clearly demonstrating the powerful influence of the remedy, and equally, at the same time, the necessity for its cautious employment. If too much blood be withdrawn, there is danger of increasing irritability, and at the same time of diminishing the constitutional powers below the standard necessary for subsequent reparative action; hence it is, that other than antiphlogistic means, are now so generally preferred. It is impossible to say what is a proper quantity generally to be removed, or under what circumstances bleeding should be repeated.

Cases of inflammation of the pericardium, pleura, lungs, and peritoneum, each indicated by the hardness of the pulse, most especially demand abstraction of blood, and the continuance of pain and the hardness of the pulse demand the repetition. But do not mistake quickness and fulness for a hard pulse, which is usually small, and sometimes in inflammation of the bowels so small as to be scarcely distinguishable, and yet demanding bleeding, which renders the pulse immediately more distinct by diminishing the tonicity of the arteries. A quick pulse rarely indicates bloodletting. The quantity of blood to be withdrawn is to be judged of by the effects which it produces while flowing, by the diminution of pain, and the decreasing hardness of the pulse. As the rapid escape of blood produces a better and more certain effect than the removal of a much larger quantity which is abstracted slowly, it should be drawn from a large opening; and it is often useful in dangerous cases to draw the blood into different vessels, so as to judge of the state of the first and last withdrawn portions. From twelve to twenty ounces is about the quantity generally withdrawn to produce the desired effects. Sir Astley Cooper tried the following experiment to judge in some measure of the quantity of blood an animal could bear the loss of, before life was destroyed, to enable him to form some criterion of the largest quantity which might be abstracted from the human subject. "A dog, weighing 14 lbs., had its jugular vein opened: from this eleven ounces were

discharged, when the dog fainted. The carotid artery was then divided, and from this source three ounces more were obtained, and no more could be drawn, so that one ounce of blood to one pound of solids was the portion abstracted." I do not see what deductions are to be drawn from this experiment; and, indeed, gentlemen, I am inclined to remark here that I believe experiments upon the lower animals will assist you but little in the treatment of disease in the human subject. When I first commenced the study of my profession in the city of Norwich, in 1810, bleeding was employed pretty nearly as the only antiphlogistic remedy to be trusted to; and, indeed, persons were periodically bled prophylactically. In that day every practitioner prided himself upon the dexterity with which he performed the operation; now, indeed, it is but rarely done; but still let me advise you all to learn to perform even this minor operation skillfully. I will tell you an anecdote, which will prove to you that, slight as you consider the operation, you may fail in its completion. His Majesty George IV. was taken ill, and sent for his physician, who upon examining the state of the King's health, said, "Your Majesty must immediately be bled;" to which the King replied, "I will send immediately for Mr. Philips to bleed me:" the physician said, "if it please your Majesty, I could take blood myself from you directly." "Ah!" said the King, "that is easier said than done, for Philips tells me no one can bleed me but himself." The physician persisted in the necessity for immediate phlebotomy, and the Monarch consented; the arm was stabbed, no blood followed; a second and a third incision was made, with the same result; and then the King said, "I told you how it would be." Mr. Philips was sent for, who immediately succeeded; upon which the King turned to his physician, and said, "I am glad you did not succeed, for it would have broken Philips' heart if any one had done this for me but himself." So you see, gentlemen, that you may fail even in this minor operation.

Typical remedies.—Leeches, cupping, poulticing, fomentations, lotions, counter-irritants, setons, issues, may any of them be necessary as topical treatment, and, indeed, such means may be required to be locally applied, even while at the same time it may be necessary to be administering bark, stimuli, and opium constitutionally: there is no incongruity in this treatment, for, although depleting means may be necessary to relieve the active local congestion, still the constitution may require stimulus to excite local reparative action after the distension of the vessels has been relieved.

Purgatives and sudorifics are other antiphlogistic means employed to allay constitutional excitement, and, I think, are generally best employed together, the object being to restore all the secretions which the irritative fever has a tendency to suppress, and not to act merely on one particular secretion; for as the skin is dry, the bowels constive, the bile deficient, and the urine less abundant than natural, each of these organs requires the appropriate remedy to increase its natural action, and I know of no better medicine than that which Sir Astley Cooper for years prescribed under these circumstances.—℞ Hydr. Chloridi, gr. iij.; Pulv. Opii, gr. ss. M. ft. pil. statim sumenda. ℞ Magnes. Sulphatis, ʒj.; Liq. Ammon. Acetat. ʒj.; Liq. Antim. Tart. ʒj.; Træ. Hyoscyami, ʒj.; Aquæ Menthæ virid. ʒviij.; M. Capt. cochl. larg. ij. quaque 4ta horâ, donec alvus bene responderit. This remedy, gentlemen, you will rarely find fail in restoring secretions and allaying constitutional irritation. Effervescing draughts will also be frequently found highly beneficial, particularly when there is any tendency to sickness, and antimony in that case should not be employed. Great attention should be paid to dietetic observances, and abstinence from animal food should be strictly enjoined, or, at any rate, nothing beyond weak beef-tea, or broth, should be permitted at the commencement of the excitement, and only under certain circumstances should it ever be allowed. Large quantities of diluents are also useful in maintaining the secretions. When inflammation is attended with symptoms of a typhoid character, general antiphlogistic means are inadmissible, as the patient is liable to become excessively reduced by any copious evacuation; yet, at the same time, it is not to be considered that such patients, however depressed, will bear animal food; for while the skin is hot, the pulse quick, and the secretions suppressed, the bowels must still be gently acted on, and small doses of opium will be found beneficial after they have been sufficiently relieved; but not until the pulse and temperature of the skin have been lowered can animal food be safely permitted.

The treatment of chronic inflammation.—Chronic inflammation is generally indicative of a scrofulous diathesis, and the treatment requires to be modified, and differing from that employed in the more active inflammation. It is the constitution which is at fault; it is therefore the condition of the constitution which must be altered: hence the appropriate remedies are termed *alteratives*. Medicines, however, are not necessarily required: change of air, sea-side, improved diet, will often be found sufficient to produce the desired effect. In those

constitutions the secreting and excreting organs are found sluggish in their action, and all the phenomena or symptoms arising from a strumous diathesis are ill defined, that is, not producing the same urgency of derangements, as in more vigorous constitutions, so the means employed to attack them must be less powerful and energetic. In chronic inflammation of joints, glands, and in the formation of indolent tumors, and even those of a specific character, as fungus and scirrhus, which go on increasing insidiously, and almost without pain, too active means prove highly injurious, and small doses of bichloride of mercury, with sarsaparilla, or Plummer's pill with hyoscyamus at night, seem to be the best remedies, assisted by generous diet and free air. Our London Hospitals are the worst possible places for such patients to be sent to. Mercury in these cases is not given with the same view as in syphilis, to act specifically, but merely to act gently upon the chylopoietic viscera, and is given in very small doses; and so soon therefore as the secretions are restored, the mercury should be withheld, and iodine prescribed. The formula which I usually order it in is as follows:—℞ Iodini, gr. ss.; Potass. Iodidi, ʒss.; Syrup. Papav. ʒss.; Infus. Gent. co. ʒviij. M. Capt. cochl. larg. ij. bis quotidie, with tepid applications to the chronic swellings, either warm water dressings or the following lotions, if the warmth does not prove agreeable to the patient's feelings.—℞ Ammon. Hydrochlor. ʒj.; Sp. Vini rect., Liq. Ammon. Acetat. aa. ʒij.; Aquæ destillat. ʒiv. M. ft. lotio.

Friction, steaming, and bandaging will, each of them, in certain cases, prove advantageous, as well as a variety of stimulating applications; as, for instance, equal parts of camphor and soap liniments, with a small quantity of tincture of opium often prove of great service. But of topical treatment I shall have to treat more at large while speaking of the various local injuries and diseases to which the human frame is liable.

GREAT MORTALITY IN A FRENCH PRISON.

AMONG 1,968 prisoners at Clairvaux, there were on the 24th of May, no less than 363 sick and 165 convalescent. There were 60 deaths in April and 57 in May: making 117 deaths in less than sixty days; nearly two per diem! In thirty-two months there were 500 deaths among 2000 prisoners,—a mortality of 25 per cent. Of 410 female prisoners 119 were on the sick list. This excessive sickness and mortality have arisen from overcrowding and bad management: for the *Union Médicale*, from which we take the particulars, states that the inhabitants of the town and garrison are in good health.

THE CROONIAN LECTURES,

*Delivered at the College of Physicians, in
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LECTURE III.

THE subject to which I shall call your attention to-day is a disease of the stomach which is very painful, and often lingering, and very fatal, and which, taking these circumstances into account, is sufficiently frequent to be of considerable practical importance; which leads, moreover, to unmistakable changes of structure; but of which, notwithstanding, the clinical history has not yet been clearly traced. The disease I speak of, is that which has been termed *simple ulcer*, or *chronic ulcer*, or *perforating ulcer*, of the stomach. The series of preparations which I have placed on the table afford good illustrations of its various forms and results.

In most cases, the stomach presents no marks of disease, except a single deep ulcer on its inner surface. This ulcer is seldom larger than a shilling, but sometimes, especially when it is situated on the posterior wall of the stomach, grows to the size of a crown-piece, or even of the palm of the hand. It is generally circular or oval, and in all cases extends through the mucous membrane, the edges of which are clean-cut, as if a portion of the membrane had been punched out. Sometimes, the mucous membrane only is destroyed, and the ulcer has then an even base, formed of the submucous areolar tissue. In other cases, after a time, the process of ulceration eats through the other coats of the stomach in succession, until perforation takes place, and the contents of the stomach escape into the sac of the peritoneum.

The outer coats of the stomach are always destroyed in less extent than the mucous coat, so that, when perforation occurs, the aperture seen from without is much smaller than the original ulcer of the mucous membrane.

At first, and often for a long time after the formation of the ulcer, the coats of the stomach at its margin present no change of structure; but, in cases of long standing, the margin of the ulcer, like that of an old ulcer of the skin, is frequently indurated and thickened, from the contraction of lymph that has been effused into the submucous areolar tissue. This hardness and thickening seldom, however, extends more than a line or two from the edge of the ulcer.

It frequently happens, that, before all the

coats of the stomach are eaten through, adhesive inflammation of the peritoneum over the ulcer is set up, and lymph is poured out which glues the portion of the stomach covering the ulcer to the pancreas, or to the left lobe of the liver, or to some other organ with which it happens to be in contact. The adhesions formed in this way often prolong the life of the patient, by closing the aperture made by the ulcer, and thus preventing extravasation of the contents of the stomach into the peritoneal sac.

When the ulcer extends deeper than the mucous membrane, it frequently opens a branch of one of the arteries with which the stomach is supplied, and thus causes sudden and profuse, and, it may be, fatal hemorrhage.

The ulcer is generally situated along the lesser curvature of the stomach, or near it; usually, nearer the pyloric orifice than the cardiac; and much more frequently on the posterior wall of the stomach than on the anterior. It is hardly ever found in the fundus, or great end, of the stomach, where the softening of the mucous membrane from the gastric juice, to which I called your attention in the preceding lectures, is usually met with in the highest degree. An ulcer is now and then met with in the first, or upper, part of the duodenum, having precisely the same characters as the simple ulcer of the stomach, and doubtless formed in the same way.

Rokitanski, who has studied the morbid anatomy of this disease with his accustomed patience, states that of 79 cases of which he has given an analysis, the ulcer was situated

- In 15, on the lesser curvature.
- 20, on the posterior wall of the stomach.
- 5, on the anterior wall of the stomach.
- 16, at a small distance from the pylorus.
- 16, in different parts at once; especially simultaneously on the anterior and posterior surfaces.
- 1, at the fundus of the stomach.
- 6, in the duodenum.

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In most cases of simple ulcer of the stomach the ulcer is solitary, and, as I have before observed, the stomach presents no other marks of disease, except such as are clearly traceable to it. Now and then, however, more than one ulcer exists. In two instances which have fallen under my own observation, there were two such ulcers in the same stomach, as you see exhibited in three of the preparations before us; but in my own experience I never met with an instance in which there were more than two.* Of the 79 cases collected by Roki-

* Very minute and superficial ulcers, difficult

tauski, to which I have before referred, the ulcer was solitary in 62. Of the remaining 17 cases, there were 12 in which two ulcers existed; 4, in which there were 3 ulcers; and 1, in which there were five. Now and then an ulcer in the duodenum is found in conjunction with one in the stomach.

A simple ulcer of the stomach is sometimes found cicatrised. The ulcer heals just like an ulcer of the skin. The portion of the mucous membrane destroyed is replaced by a dense fibrous tissue, which contracts, and thus draws towards the centre of the ulcer, and consequently puckers, the mucous membrane around it. The newly formed fibrous tissue has a very different appearance from the mucous membrane of which it takes the place, and never fills up the cavity or depression formed by the ulcer,—so that the scar of the ulcer is readily discernible, by the deep permanent depression which is thus left, as well as by the puckering of the mucous membrane around it. If, however, the ulcer be small, its edges may be drawn together and unite, and a mere stellar cicatrix be left, without any permanent depression.

When the ulcer is large, and situated across the lesser curvature of the stomach, the process of healing, by the contraction that attends it, often permanently alters the shape of the stomach, diminishing its breadth at that part. This change of shape is very striking in these two preparations, in each of which the stomach is divided into two pouches, as if by a string passed transversely round it, looping up the greater curvature towards the lesser.

Such are the facts respecting the ulcer that have been learnt from dissection, and from some of these facts—from the circumstance, namely, that the ulcer always extends through the mucous membrane, and that, when first formed, it has always a definite circular, or slightly oval, shape, and clean-cut edges—there can be little doubt, that it is formed by sloughing of the mucous membrane, and not by a process of ulceration commencing at the surface.

The important question now naturally arises—Under what circumstances does the ulcer occur, and by what agency is it produced? On these points our knowledge is very defective.

The disease is met with in both sexes, but, as it appears, more frequently in women than in men. In the 79 cases before referred to, of which an analysis has been given by Rokitsanski, 46 occurred in women, 33 in men. It seldom, if ever, occurs under

to be seen, are now and then found in great numbers in the stomach. Following the example of Cruveilhier and others, I do not class these with the round, deep, and usually solitary ulcers described above.

the age of 16, but is found in persons of all ages from this to 60 and upwards. According to Rokitsanski, it is met with more frequently in persons beyond 50, than in persons under 30.

It occurs in the different countries of Europe in which morbid anatomy is cultivated; in agricultural districts and in large cities; and, though not with equal frequency, in the various classes of society. It seems to be much more frequent, even considering their relative numbers, among the poor, than among the rich. In this country it is generally supposed to be most frequent in the class of maid-servants, between the age of 18 and that of 25. I am inclined to believe, however, that this conclusion has been hastily drawn, and from too small a number of facts. During the last three years five fatal cases have occurred in my own practice at King's College Hospital, and all were in middle-aged men.

Lastly, the disease has not been found in conjunction with, or in sequel to, any other disease, with such frequency as to lead us to conclude that it has any intimate connection with it.

It is clear that these facts have not yet given us the clue to the real cause of the disease. The circumstance, if it be true, that the disease is more frequent, relatively to their numbers, among the poor than among the rich, and that it is more frequent among unmarried maid-servants than in other classes, would favour the inference that a state of anæmia disposes to it. But it is almost idle to speculate further. We cannot explain how it is, that the ulcer does not occur under the age of 16; how or why it is, that the ulcer is always situated in what has been termed the pyloric division of the stomach, or in the first part of the duodenum; how it is, again, that the ulcer is generally single, and that it is so much more frequent along the lesser curvature of the stomach, or near it, than in any other part?

Some peculiarities in the structure of the stomach, hitherto undiscovered, or some physiological relations not yet even suspected, may, by and by, be brought in evidence, and may perhaps furnish satisfactory answers to these important questions. That there are such physiological relations as I have here supposed, is rendered extremely probable by the remarkable discovery made a few years ago by Mr. Curling, that severe burns are frequently followed, at least in young persons, by a sloughing ulcer of the middle portion of the duodenum, which, like the ulcer of the stomach we are considering, frequently destroys life by eating into an artery, and thus causing sudden and profuse hæmorrhage, or by leading to fatal perforation.

Waiving, then, any further speculation on

the cause of the ulcer, let us turn our attention to what mainly concerns us as practical physicians;—its effects, namely, in the living body, and the circumstances which promote or hinder its healing.

An ulcer in the stomach, however produced, which has extended through the mucous membrane, is clearly very difficult to heal. The cases in which cicatrisation takes place are probably few in number compared with those in which the ulcer proves fatal by perforation, or by hæmorrhage; and when cicatrisation does take place, the lost substance is very imperfectly restored, and, unless the ulcer be a very small one, a deep depression, or pit, is left.

The contrast which the stomach presents in this particular with the small and with the large intestine, is very striking. The ulcers which form in the small intestine in typhoid fever generally heal in a few weeks, when the force of the fever is past. The ulcers which form in the large intestine in dysentery often heal rapidly, if proper care in diet be taken; and in those cases in which they remain open, or in which some of them remain open, for years, no perforation of the intestine takes place. Lymph is effused at the bottom of the ulcer, which becomes firm and hard, and effectually prevents perforation of the bowel.

Several circumstances conspire to prevent the same thing from happening in the stomach.

The first of these is the great change of volume to which the stomach is liable, two or three times a day. Directly after a meal, it is full and large; and at the end of three or four hours it is again empty and contracted.

The healing of an ulcer must also be retarded by the constant churning motion that takes place during digestion.

Dr. Beaumont observed that in the stomach of St. Martin, as long as digestion was going on, the food was regularly carried round and round, in from one to three minutes, from left to right along the great curvature of the stomach, and from right to left along the lesser curvature.

The sagacity of Hunter had already led him to infer that regular movements take place in the stomach, from the circumstance that in the hair-balls found in the stomachs of cows and some other animals, the hairs have a regular direction.

In a state of health, we are, happily, unconscious of these movements of the stomach, as we are of the stronger contractions and movements of our hearts; but when an ulcer exists in the stomach they must fret its surface, and be an obstacle to its healing.

The process of healing is doubtless hindered also by the mechanical and other irritation of the sore caused by the various substances which are taken as food.

The mucous membrane of the stomach is so organised, as to bear with impunity, when healthy, the contact of substances differing widely in their qualities. The stomach is intended to be the common receptacle of the various matters from which the nutriment of the body is derived; and its mucous membrane, with which all these matters are brought into contact, is so organised as not to be injured or painfully affected by them. But when a portion of the mucous membrane is destroyed, the mildest articles of food cause pain—a change of temperature even, by the drinking of water too hot or too cold, causes pain—and the surface of the sore is constantly fretted, and its healing retarded, by the contact of those substances which are the natural and appropriate stimulus of the mucous membrane.

The healing of an ulcer in the stomach is probably retarded also by the action of the gastric juice. The solvent power of this juice has, indeed, no injurious effect on the lining mucous membrane, but it very probably dissolves and removes the lymph which is poured out on the bottom of the ulcer; and it is only by means of this plastic lymph that the lost substance can be repaired, and the ulcer heal.

All these circumstances explain how it is, that a small ulcer which causes no constitutional disturbance, which may not even much impair the nutrition of the body, and which, if situated in a lower portion of the same canal, might soon heal, becomes so serious a disease,—how it leads so frequently to long-continued suffering, and death.

It is now time that we should consider the symptoms of ulcer of the stomach, as these alone enable us to detect it in the living body.

We have already seen that the disease is one of great danger: that it may at any time destroy life, almost suddenly, by causing perforation of the stomach, or profuse hæmorrhage. We have seen, too, that it is a curable disease; that the ulcer, even when of long standing, may heal, and the health of the patient be restored; and there can be no doubt that the healing of the ulcer, and the recovery of the patient, may be brought about or promoted by judicious treatment. The health and life of the patient may depend, then, on our detecting the real nature of his disease. Unfortunately, in the early period of the disease, it is not easy to do this. We are not aided, as we are in the detection of many other diseases, by the knowledge of its causes, or of any peculiar circumstances under which it is apt to arise; and at an early period the symptoms are of doubtful character, and often the sufferings of the patient, and the derangement of his health, are so slight as not to alarm either

himself or his friends. Sometimes he follows his usual occupations, and seeks no advice, till perforation of the stomach takes place. He does not even regard himself as an invalid, and is considered by his friends in good health, when he is *suddenly* seized with agonising pain at the epigastrium and with the other symptoms of peritonitis from perforation, falls rapidly into collapse, and dies within 24 or 36 hours.

In such cases, the character of the symptoms, especially the great suffering referred to the stomach, and the suddenness with which life is cut short in the midst of apparent health, often lead to a suspicion of poisoning. One instance of this kind, which gave rise to a coroner's inquest, has fallen under my own observation, and many others are related in the systematic works on forensic medicine. A perusal of these works might, indeed, lead to the belief that the symptoms which precede perforation are *generally* trivial; but such is by no means the case. In a great majority of instances the symptoms are distressing, and, when the disease has lasted some months, they are generally significant enough.

The most constant symptom is pain in the stomach, which is generally referred to a small spot, and is more severe after meals, when the stomach is distended, and when its churning movements are going on. The pain usually abates as the stomach gets empty, to be renewed again by the next meal. Now and then, however, pain is also felt when the stomach is empty. Together with this pain, there is some degree of tenderness or soreness at the epigastrium; but this is often slight, and, like the pain, is generally referred to a small spot. There is also occasional eructation of a sour fluid, and now and then, perhaps only once or twice in a month, the patient vomits his food. There is complete absence of fever and of thirst, the appetite is commonly but little impaired, and, unless the ulcer be large, the patient does not fall away perceptibly in flesh or in strength.

The pain at the stomach after meals, and the sour eructations, and, it may be, the occasional vomiting, are the only symptoms of disease. These symptoms persist, and the patient may go on for months, heeding them but little, and following his ordinary course of life. At times, however, the pain at the stomach gets more severe, and the vomiting more frequent, and the appetite fails. Now and then there is slight diarrhoea. These exacerbations render a restricted diet necessary; and, under the influence of this, the symptoms soon return to their former degree, and the patient goes on as before.

After a time, the ulcer may begin to heal, and the pain of the stomach to abate. The

process of healing may go on uninterruptedly, and the health be permanently restored: but more generally the amendment is only temporary, and, after a period of comparative ease, the former pain and uneasiness of the stomach returns.

But, as dissection has already disclosed, the ill effects of ulcer of the stomach do not end here: the patient is liable to accidents which may at any moment place his life in jeopardy. The most common of these is profuse hæmorrhage, in consequence of the ulcer eating into one of the arteries in the submucous areolar tissue. The hæmorrhage is often preceded for a day or two by an increase of pain, which may, perhaps, be taken as evidence that the ulcer is spreading; but in other cases it occurs without any aggravation of the usual symptoms.

If the blood be poured out in small quantity, or slowly, it may pass off by the bowel, without causing vomiting. The patient grows rapidly weak and listless, has a slight diarrhoea, without tenderness of the belly or fever, and the discharges from the bowels are copious and black. More frequently the blood is poured out in large quantities at a time, and acts as an emetic. The patient has a feeling of faintness and nausea, soon succeeded by vomiting of a large quantity—from one to three pints—of black, clotted, blood. The vomiting is followed by a state of faintness, and the hæmorrhage ceases. Frequently, the vomiting recurs on the same or the following day, and a large quantity of blood is again brought up. Some blood also passes downwards, and the discharges from the bowels are copious and black.

At the end of a day or two, the hæmorrhage ceases entirely, and the patient is left blanched and weak. In addition to the sufferings which belong properly to the disease of the stomach, he has now those which result from the loss of blood. Slowly, and by degrees, the loss of blood is repaired, and the symptoms directly referable to the stomach alone remain.

In the majority of instances, after the lapse of some months, or, it may be, of two or three years, hæmorrhage comes on again. The patient, after a day or two's increase of pain, but sometimes without this, and quite suddenly and unexpectedly, is taken, as before, with faintness and nausea, which is soon followed by vomiting of black, clotted, blood. The circumstances of the former attack are repeated, and at the end of a day or two, at most, the hæmorrhage again ceases.

In cases which are very protracted (where the ulcer remains open, as it sometimes does, for many years), it happens not unfrequently that the patient has four or five attacks of hæmatemesis, such as I have described, occurring at unequal, and, it may

be, long intervals. Notwithstanding that the hæmorrhage is generally abundant, it seldom proves immediately fatal. Among a considerable number of cases of this kind that have fallen under my own observation, there is only one in which this happened. The subject of this case was a very respectable man, who kept the parish school of St. Clement's, and lived in the immediate vicinity of King's College Hospital. Symptoms of ulcer of the stomach first appeared in June 1842, when he was 48 years of age; and from this time till his death, which happened in December 1844, he was frequently under my care on account of it. He had an abundant hæmorrhage from the stomach in October 1843, which ceased at the end of two or three days, and did not recur till the 20th of December, 1844. On the evening of that day he grew faint, and vomited blood. The loss of blood was not, however, sufficient to prevent his attending to his school as usual. On the evening of the 23d he grew faint again, and felt sick, but did not vomit. He complained of griping pains in the belly, but was not purged. About an hour after, he fell down in a fainting fit, and expired.

The stomach, and the whole of the intestinal canal, down to the descending colon, were distended with dark, clotted blood. The ulcer from which the blood came was situated on the posterior wall of the stomach, about two inches to the right of the cardiac orifice, and was as large as a half-crown: it had destroyed all the coats of the stomach down to the pancreas, which was there adherent to it, and had eaten through a large artery, which I took to be the splenic, from which the hæmorrhage doubtless proceeded. Nearer the cardiac orifice was the depressed scar, about the breadth of a shilling, of another ulcer, which had healed.

On the table is a preparation, shewing an ulcer on the posterior wall of the stomach, which caused fatal hæmorrhage, by eating into the splenic artery; and another preparation, shewing an ulcer on the lesser curvature, which led to the same event, by laying open the gastric or coronary artery.

Simple ulcer of the stomach, as I have already remarked, seldom proves fatal by hæmorrhage. Cruveilhier states, that, of the cases which he had collected, the only ones that proved fatal in this way were those in which the ulcer had eaten (as in the preparations to which I have just pointed) into the gastric or the splenic artery. These ulcers form most commonly, as we have seen, along the lesser curvature of the stomach, or on its posterior wall; so that the gastric artery, which runs along the lesser curvature, and the splenic artery, which crosses the posterior surface, are liable to be involved in the ulcer.

But death results much more frequently from another accident to which persons with this kind of ulcer are liable—namely, perforation of the stomach, and the escape of its contents into the sac of the peritoneum. When this happens, the patient is seized *suddenly* with agonising pain at the epigastrium, soon followed by the other symptoms of peritonitis from perforation, and usually dies in from eighteen to thirty hours.

As I have already remarked, the occurrence of death in this sudden way, in a person who, up to the time of the perforation, had been following his usual course of life, and had seemed in good health, has often led to a suspicion of poisoning. All the concomitant circumstances have in consequence been often noticed and recorded with extreme care and minuteness. Mr. Alfred Taylor, who has published an excellent paper on this subject, in its medico-legal relations (in the 4th volume of Guy's Hospital Reports), states, that the perforation generally occurs soon after a meal. Its more frequent occurrence at that time is, no doubt, chiefly attributable to the distension of the stomach which then exists, and to the vermicular movements of its coats which are then taking place; but it may possibly also be owing in some degree to the solvent action of the gastric juice. When the ulcer has eaten down to the peritoneal coat, and has, perhaps, impaired the vitality even of this, the gastric juice may exert its solvent action upon it, and immediately cause the catastrophe.

In some cases the process of ulceration is rapid, and perforation occurs early—without having been preceded by any severe or alarming symptoms, and within a few weeks (it may be) of the formation of the ulcer. In other cases the ulcer remains open for many years, giving rise to its ordinary symptoms, and now and then to an alarming hæmorrhage, and, at last, leads to the fatal perforation. A remarkable instance of this kind fell under my care in King's College Hospital, in October, 1843. A house-carpenter, 63 years of age, who had had the usual symptoms of ulcer of the stomach for fifteen years, was brought into the hospital on the 3d of October, in a state of extreme exhaustion from vomiting of blood, which came on some days before. The hæmorrhage had then ceased, and did not again recur. Two days after his admission to the hospital, perforation of the stomach occurred, and he died in twenty hours. The ulcer, which was not larger than a shilling, was situated on the lesser curvature of the stomach, about half an inch from the pylorus, and had a hard and thickened edge. The rest of the stomach, and the intestines throughout, were perfectly sound.

Occasionally perforation takes place, but the contents of the stomach are not effused over the whole surface of the peritoneum, so as to excite general peritonitis. The diffusion of the contents of the stomach, and of the consequent inflammation, is prevented by adhesions which have already taken place; and the result is a circumscribed abscess in the sac of the peritoneum behind the ulcer. One instance of this has fallen under my own notice, and two others are recorded by Dr. Seymour, in a paper published in the *MEDICAL GAZETTE* for 1844. When this happens, and when the abscess is of considerable size, there is, of course, constant suffering, with loss of appetite and hectic fever, which soon wears out the strength of the patient.

Fatal perforation is, I believe, most common when the ulcer is situated on the anterior wall of the stomach, or along its lesser curvature. It would take place much oftener than it does, were it not for adhesions which are apt to form between the peritoneum covering the ulcer and some other organ which this part of the stomach may happen to touch. Before all the coats of the stomach are eaten through, adhesive inflammation is set up in the portion of peritoneum covering the ulcer, and coagulable lymph is poured out, which serves, in some degree of itself, as a safeguard against perforation, and which glues the stomach at this part to the organ with which it happens to be there in contact. By this means the aperture which the process of ulceration would otherwise cause is stopped. The pancreas is, from its situation, the organ by which fatal perforation is most commonly prevented. The symptoms which denote this partial adhesive inflammation of the peritoneum are an aggravation of pain and of tenderness, (which are still confined to the region of the stomach,) more frequent vomiting, and a certain degree of fever.

It happens now and then that without perforation taking place, or at least without extravasation of the contents of the stomach taking place, the adhesive inflammation of the peritoneum set up above the ulcer, instead of being confined to the immediate vicinity of the ulcer, and leading to the effusion of only a small quantity of lymph, is much more extensive: lymph is poured out in considerable quantity; the stomach becomes united to all the adjacent viscera, and some coils of intestine, it may be, become united to each other,—so that after the inflammation has subsided, besides the symptoms which properly belong to ulcer of the stomach, the patient is liable to obstruction of the bowels, and other evils, which result from the natural movements of these organs being restrained.

All this happened in a man, from whom the stomach forming this preparation was

taken, who died under my care in March, 1845. The stomach was much altered in shape, being lengthened at the expense of its breadth, and was united to all the adjacent organs—the liver, the spleen, the pancreas, the colon—so firmly that it could only be separated from them by dissection: the coils of intestine in the upper half of the belly were glued together in the same way.

The ulcer, which was the source of all this mischief, was, at the time of death, of the size of a fourpenny-piece, nearly circular, and situated midway between the orifices, along the lesser curvature of the stomach. The edges of the ulcer are indurated, and the mucous membrane for some distance around is puckered, by the contraction which the ulcer has undergone.

In this instance death resulted from exhaustion, which was occasioned, not merely by the ulcer in the stomach, but as a consequence of the adhesions of the stomach and bowels which the ulcer had caused. These adhesions, by causing obstruction, led to frequent vomiting, and doubtless interfered in other ways with the functions of those organs.

It now and then happens, when the ulcer attains a large size, that death results from exhaustion, without any such extraneous mischief.

From the account I have given of the symptoms and course of ulcer of the stomach, it will be seen that this disease becomes more easy of detection the longer it has lasted.

In its early stages the symptoms are few and equivocal. Pain and soreness at the stomach felt after meals, occasional acid eructations, and occasional vomiting—which are often the only symptoms then present—may result from various other causes, and even from mere functional disorder.

After these symptoms have lasted some weeks, or months, their very continuance becomes significant; it leads us to conclude that they depend on organic disease, while the seat of the pain, and the circumstance that it is always increased by eating, and usually abates as the stomach gets empty, lead us to infer, in the absence of any direct evidence of disease of the liver or other adjacent organs, that this organic disease is in the stomach.

After a time, the symptoms I have mentioned are often succeeded by the sudden occurrence of vomiting of blood in large quantity. When this has happened, the detection of the disease becomes much easier.

Vomiting of blood may, indeed, result from various other causes, but these may generally be distinguished by the circumstances under which they occur.

1st. It may result from a general tendency

to hæmorrhage, in consequence of a faulty condition of the blood,—as in scurvy, or purpura; but in such cases the hæmorrhage is not confined to the stomach; blood issues from other mucous surfaces, and purpuric spots appear on the skin.

2. Again, vomiting of blood may result from mechanical congestion of the stomach, in consequence of some impediment to the free passage of the blood through the liver, or the chest. In such cases, the quantity of blood lost is small, and the cause of the hæmorrhage is generally obvious enough, from the co-existence of other symptoms, which reveal the primary disease, and which show that the passage of the blood through the liver, or the chest, is greatly impeded.

3. Vomiting of blood sometimes occurs, without any organic disease of the stomach itself, in persons who, in consequence of repeated attacks of ague, or other causes, have great enlargement of the spleen. Here, also, the previous history of the patient, his cachectic condition, and the palpable enlargement of the spleen, readily lead us to the original cause of the hæmorrhage.

4. Lastly, the hæmorrhage may be vicarious of the catamenia; and this is especially liable to happen in young unmarried women,—the class of persons supposed to be most subject to ulcer of the stomach. But, in such cases, the hæmorrhage usually occurs at the monthly period, and the natural discharge is suppressed, or has previously been irregular; and the vomiting of blood, although it may be attended with severe pain at the time, has not been preceded, and is not followed, by the long-continued pain and soreness produced by ulcer.

When vomiting of blood does not depend on any of the conditions which I have just mentioned, it results almost invariably (except in the case of malignant fevers) from organic disease of the stomach itself.

When, therefore, profuse vomiting of blood occurs in a person who exhibits no general tendency to hæmorrhage; who has no disease of the liver, or in the chest, which greatly impedes the passage of the blood; who has no great enlargement of the spleen; and in whom the hæmorrhage cannot, from the time of its occurrence and other circumstances, be referred to disorder of the menstrual function;—we are driven, in reasoning by the method of exclusion, to ascribe it to disease of the stomach itself. When such is the case, and when, moreover, the vomiting of blood has been preceded for some weeks or months by pain and soreness at the stomach, always brought on or increased by meals,—hardly a doubt can remain that it actually depends on organic disease of this organ. But in persons under the age of 30, the only organic disease of the sto-

mach that gives rise to hæmorrhage, with very few exceptions, is ulcer.

It follows, therefore, that from the peculiar train of symptoms which I have mentioned; namely, pain and soreness of the stomach, always brought on or increased by meals, continuing for many weeks or months, with occasional sour eructations and occasional vomiting, but without much fever or constitutional disturbance; and succeeded at the end of that time by profuse vomiting of blood,—it follows that, from this peculiar train of symptoms, we may occasionally, in persons between 18 and 30, infer the existence of ulcer of the stomach with almost as much certainty as that of any inward disease.

In persons above the age of 30, vomiting of blood, preceded by disordered and painful digestion, may likewise occur from cancer of the stomach. For persons, therefore, who have reached this age, the question will arise,—Is the organic disease of the stomach, which we have inferred to exist, simple ulcer, or is it cancer? When the disease has already lasted some months, it will in most cases be easy enough to answer this question.

Cancer of the stomach in most cases originates at the pyloric or the cardiac orifice, and in some degree narrows or obstructs it. It also gives rise to a tumor, which, at the end of some months, is generally palpable enough; and it *always* interferes greatly with nutrition, causing progressive, and, after a time, extreme wasting.

Simple ulcer seldom produces any of these effects. When, therefore, from the train of symptoms I have mentioned, we have inferred that organic disease of the stomach exists, we may often proceed a step further, and conclude that this disease does not obstruct either the cardiac or the pyloric orifice; and, from the circumstance that the power of digestion remains, and that there is no great wasting, we may conclude, also, that the disease involves only a small portion of the stomach.

We are thus led to the conclusion, that there is organic disease of the stomach of such kind as to cause hæmorrhage,—that this disease involves only a small portion of the stomach,—that it does not obstruct the orifices,—and that it does not form a tumor large enough to be felt. The probability in such a case will be very great that the disease is simple ulcer, and not cancer. The probability is the greater, the longer the previous duration of the disease. A simple ulcer may continue almost stationary—at any rate, with little change in the symptoms—for twenty years. Cancerous disease, on the contrary, constantly and steadily progresses; the symptoms become, week after week, more marked; and the patient dies much emaciated within a year, or

within two years at the furthest. If, then, the disease has lasted this time, presenting the peculiar train of symptoms I have mentioned, and there is still no great wasting, and no evidence that the orifices of the stomach are obstructed, and no tumor to be felt, hardly a doubt can remain that the disease is simple ulcer of the stomach. The evidence is as complete and decisive as we can well have for any inward disease.

Although, then, it may be difficult, or even impossible, to distinguish ulcer of the stomach soon after its formation, from some other diseases, we may generally do this surely enough when the ulcer has already lasted many months.

Supposing, then, the existence of the ulcer to be thus made out, the question arises,—How can we best alleviate the sufferings to which it gives rise, and obviate its dangers, and promote its healing?

We have seen that there are several circumstances which impede the healing of the ulcer, and which cause the repair of the lost substance, when healing does take place, to be less perfect there than in lower portions of the alimentary canal. These circumstances are, the great and frequent changes of volume to which the stomach is subject,—the writhing movements that are constantly going on in its coats while digestion continues,—the mass of crude substances that are put into it, which, being constantly driven round and round, must continually irritate and fret the ulcer,—and, as regards the ulcer and the secretion from its surface, the irritating and solvent action of the gastric juice. It is by lessening as much as we can the unfavourable influence of these circumstances, that we best promote the recovery of the patient. Our chief means of effecting this is by proper regulation of the diet. The patient should prevent the ill effects of distension of the stomach, and, as much as possible, of change of volume of the stomach, by eating little at a time; and the food taken should be of the mildest kind. Whatever irritates an ulcer on the skin will irritate an ulcer in the stomach. Milk, or milk with bread, or with arrow-root, or other farinaceous food, which would make a soothing poultice for an ulcer on the skin, are the articles of food which are most soothing, or rather, which cause the least pain, in ulcer of the stomach. Occasionally, a little jelly, or beef-tea, may be allowed. Our choice between different articles of food will be best determined by the degree of pain which they severally occasion.

The good effects of this plan of treatment are in most cases soon apparent. After a few days the pain at the stomach

has generally much abated, and the sickness, if any existed, has ceased. Sometimes the amendment is progressive, and, if the plan be persevered in for a few weeks, the ulcer heals, and the patient recovers. In other cases, on the contrary, the pain and soreness, though much lessened, continue to be felt; and if the ulcer heal at all, it is only after the lapse of many months. As a general rule, the ulcer will be slower to heal the longer it has lasted. Old ulcers are generally larger and deeper than recent ones; and they have often a raised and hard margin, which prevents, or very much retards, the process of healing.

In most cases, perhaps, the chief impediment to the cure of these ulcers, when they are not of long standing, arises from the difficulty of making the patient submit long enough at a time to the restricted diet that is necessary for it. The pain may not be sufficiently severe, or the general symptoms sufficiently alarming, to furnish an adequate motive for so much self-denial.

Medicines are of comparatively little efficacy. Where there are sour eructations, or where, in case of vomiting, the matters vomited are sour,—that is, where the stomach does not completely empty itself, or where the irritation of the ulcer causes a secretion of gastric juice in the empty stomach,—15 grains of Bicarb. of Potash, and 3 or 4 grains of Nitre, two or three times a day, lessen the pain at the stomach, and are therefore, it is fair to presume, productive of benefit. In other cases, on the contrary, they increase the pain, and probably do harm. The best evidence we can have of the good or ill effects of medicines, as of particular articles of food, is from their assuaging, or increasing, the pain.

When there has been vomiting of blood, and the patient is much blanched, a few grains of citrate of iron may often be given with advantage, as soon as, under the influence of strict diet, the symptoms have so far abated that a little solid food can be borne without pain.

I have often made trial of opium and hydrocyanic acid, and nitrate of silver, with the object of lessening the pain, or of healing the ulcer, but never could persuade myself that either of these medicines did any substantial good.

When the bowels are much confined, an aloetic, or a compound colocynth pill, should be given. These medicines irritate the stomach much less than castor oil, rhubarb, or the saline purgatives. They exert their chief action on the large intestine, and may generally be given in the disease we are considering without bringing on or increasing the pain. When ulcers exist in the in-

testines, on the contrary, and a purgative is necessary, — as sometimes happens during convalescence from typhoid fever, and in dysentery,—the purgative that is safest and best is castor oil; and of this small doses are always sufficient. A drachm, or two drachms, will act as surely as two or three times the quantity, and with much less offence to the stomach, and much less irritation to the bowels.

In these diseases, as in ulcer of the stomach, the patient should be kept on the mildest diet, until there is reason to believe that the ulcers have healed. Many a case of typhoid fever has terminated fatally from perforation of the bowel, during seeming convalescence, and many a case of dysentery has become chronic, from want of attention to this point. The appetite has been indulged without stint, and the raw surface of the ulcers continually fretted.

If vomiting of blood should come on from ulcer of the stomach, the means most likely to restrain it are, ice, swallowed in small quantity, or applied to the epigastrium; rest; *prolonged fasting*: alum, and other astringents.

We have seen that perforation and hæmorrhage are often preceded for a day or two by increased pain and soreness at the stomach. Aggravation of the pain betokens a spreading of the ulcer, and should always be promptly opposed by restricted diet. *Prolonged fasting* is doubtless the most efficient remedy for any aggravation of the symptoms, and the surest means of obviating the danger which such aggravation threatens.

An ulcer in the *duodenum* causes less severe and less significant symptoms than an ulcer in the stomach. The duodenum is not liable to the same changes of volume as the stomach, and its contents do not undergo the same *churning* from the movement of its coats, and the surface of a sore in it is not fretted in the same degree by the crude substances taken as food.

The chief symptom of ulcer in the duodenum is pain in the situation of the ulcer, which is seldom constant, and which, in most cases, is felt only two or three hours after a meal, when the food is passing from the stomach into the duodenum. After this has continued for some time, the ulcer may heal; but, occasionally, the ulcer burrows deeper than the mucous membrane, eats into an artery in the sub-mucous areolar tissue, as it does in the stomach, and causes sudden and profuse hæmorrhage, or leads to perforation of the bowel, and the sudden occurrence of peritonitis that proves rapidly fatal.

From the symptoms being usually much less severe than those of ulcer in the stomach, the fatal perforation occurs with less

warning, and is more unexpected. Some striking instances of this have been published during the last two or three years in the weekly medical journals.

A gentleman, who had previously enjoyed excellent and uninterrupted health, had for three days slight uneasiness in the stomach and bowels, which induced him to take a dose of castor oil, but did not prevent his entering fully into his occupations and amusements. On Friday, the 29th of May of last year, he had spent several hours on horse-back on the downs of Epsom, and was returning home, when he was seized, at a short distance from Epsom, at 6 o'clock in the evening, with violent pain in the stomach and bowels, which obliged him to alight and seek a place to lie down. He entered a farm-house, and threw himself on his belly, apparently in great agony, and seeking relief from pressure. Half an hour afterwards he was found by Mr. Stilwell, the surgeon who was called to him, lying on his back on a sofa, in a state of collapse, and complaining of severe pain in the region of the stomach. He was placed in bed, and died there, in the farm-house, the next day, about eighteen hours from the time of his unexpected and terrible seizure. Other very interesting particulars of the case, which I have no time to mention, have been published by Mr. Stilwell, in the *Lancet*, for the 18th of July, 1846. The perforating ulcer was on the anterior surface of the duodenum, near the pylorus.

A case still more impressive, with the details of which many of you are doubtless familiar, occurred in the summer of 1845, and is related by Dr. Little in the *Lancet*. I allude to the case of Mr. Somes, the great ship-owner, and the late M.P. for Dartmouth, in whom perforation of the duodenum occurred, while he was engaged in the House of Commons.

He was a man of firm and vigorous constitution, 57 years of years, and, although he seems to have suffered for some time occasional pain at the epigastrium, considered himself in good health. The perforation occurred at a quarter past one, P.M. on the 24th of June, causing great agony and speedy collapse, which ended in his death shortly after 1 P.M. on the following day, just 24 hours from the time of his unexpected seizure.

The ulcer, as in the former case, was near the pylorus.

I have now, sir, occupied the three hours allotted to these Croonian lectures, and, in conclusion, beg to offer my best thanks to yourself, and the gentlemen who have done me the honour to be present, for the patience with which you have heard me. The shortness of the time has only permitted

me to bring under your notice a small portion of the diseases and disorders of the stomach. Others, quite as interesting and important, remain, to which, if an opportunity is afforded me, I shall beg to call your attention at some future season.

Original Communications.

OBSERVATIONS ON THE DISEASES OF CHILDREN.

By JAMES MILMAN COLEY, M.D.

Licentiate of the Royal College of Physicians,
Physician to the Western Dispensary, and
Senior Physician to the Royal Pimlico Dis-
pensary.

[Continued from p. 543.]

Wry neck, torticollis or contraction of the muscles of the neck.

THIS may commence at any period of life: it is often met with in children, and is said to be sometimes congenital. It is a most painful and distressing disease, and, when neglected, terminates in a permanent deformity, accompanied in some cases with a fixed lateral distortion of the cervical vertebræ. As I have always been able to remove the disease in children, when consulted soon after its commencement, I am induced to publish my views of its nature and proper treatment. The attack begins with a painful, remittent, convulsive motion of the muscles of one side of the neck, which is drawn towards the side affected. In the early stage of the disease, a periodical increase of the malady may be observed, denoted by a febrile paroxysm, like that variety of chorea which I have before described as an incident to some cases of typhus. The upper nerves of the neck constituting the cervical plexus pass off in pairs like the fifth, the anterior or motor filaments originating without, and the posterior or sentient originating with, ganglionic bulbs. When the motor filaments are excited by inflammation or vascular congestion in a corresponding portion of the neurilema, arising from exposure to a current of cold air on one side of the neck, or from any other cause, convulsion of the muscles to which they proceed takes place, and, when the ganglionic filaments are so affected, pain is the result. This dependence of convulsion or involuntary action of the muscles on the morbid excitement

of the motor filaments produced by inflammation or vascular turgescence, has been alluded to in one of my former communications in the MEDICAL GAZETTE, on the convulsions of infants, and has been exemplified after death in a case of convulsion of the diaphragm, which presented evidence of inflammation in the neurilema of the left phrenic nerve, in its course over the pericardium.* The periodicity of the febrile paroxysm which occurs at the commencement, appears to me to arise from the morbid excitement of the sentient nerves, in the same manner as facial neuralgia from inflammation or vascular distension in the neurilema of the facial branch of the fifth pair, and is not dependent on simple irritation unconnected with local arterial excitement or plethora. In scrofulous children this inflammatory condition is not confined to the neurilema, but is found to extend to the periosteum and the bony fabric of the vertebræ, which become enlarged by tubercular deposit, and ultimately carious.

During the febrile paroxysms, the parts in the vicinity of the convulsed muscles acquire an increase of heat and sensibility, and the patient instinctively applies his hands to the sides of his head, to render it as steady as he can, and to modify the force of the convulsions. These objects are sometimes attained by confining the contorted side of the neck to the pillow. When the primary stage of the disease is neglected, a remittent or permanent contraction, in severe cases resisting all remedies, will be found to be the result.

Treatment.—From six to twelve leeches, according to the age of the patient, and a blister, should be applied to the contracted side of the neck, near the vertebral column, and occasionally repeated; the bowels should be purged every second day, and disulphate of quina or arsenite of potash in conjunction with extract of belladonna, should be administered once in six or eight hours. The two first medicines, given either separately or in combination, will remove the periodical paroxysm of fever and pain, and the belladonna will subdue the inordinate and involuntary action of the mus-

* See my Practical Treatise on the Diseases of Children. Longman and Co., 1846, p. 446.

des. The proper dose of the extract of belladonna for a child eight or ten years of age is about one-fourth of a grain, that of disulphate of quina half a grain, and of the solution of arsenite of potash three minims.

CASE I.—H. E., a boy 8 years of age, was admitted a patient of the Western Dispensary on Feb. 25th, 1847, with involuntary painful contraction of the muscles of one side of the neck, which were almost continually drawing the head towards that side. The disease had existed four days, and proceeded from cold produced by the head resting several hours against a damp wall. The disease was accompanied with quotidian fever, commencing at one in the afternoon, and terminating in subsequent heat and perspiration.

Eight leeches and a blister were applied to the affected side of the neck, near the cervical vertebræ, and solution of arsenite of potash, in conjunction with disulphate of quina and sulphate of magnesia, were administered once in four hours.

On the 1st of March I found the disease much mitigated, and the periodical character of the fever removed. One-third of a grain of extract of belladonna, in conjunction with sulphate of magnesia and disulphate of quina, was now given once in six hours, and, the fever having assumed a remittent type, chloride of mercury and jalap were exhibited every second morning.

On the 4th of March, the contraction of the muscles entirely subsided.

CASE II.—E. F., a girl, 12 years of age, was admitted on May 24th, 1847, a patient of the Western Dispensary, with wry neck, which had existed about a week. The muscles of the neck on the side affected were almost constantly in a state of involuntary painful convulsion, so that the patient was required to hold her hands to the head to relieve the inordinate action of the muscles; in this case the accompanying fever was remittent. One drachm of sulphate of magnesia, and two thirds of a grain of extract of belladonna, were given once in eight hours.

On the 27th, the painful convulsion of the muscles was nearly removed, and on the 31st the patient was discharged, perfectly cured.

Chester Square, London,
May 31st, 1847.

MEDICAL GAZETTE.

FRIDAY, JUNE 25, 1847.

WITH the present number, we complete the fourth volume of the new series of this journal. That we have received a large amount of support from professional men of long standing and experience, will, we think, be sufficiently apparent from its contents. In the *Lecture* department the pages of the journal have been occupied by valuable clinical contributions on surgery, from Sir Benjamin Brodie, Mr. Phillips, Mr. Cæsar Hawkins; and on Clinical Medicine by Dr. Todd and Dr. Laycock. In this volume, we have also published three courses of lectures recently delivered at the Royal College of Physicians: we allude to the Gulstonian lectures on the Pathology and Treatment of Dysentery, by Dr. Baly,—the lectures on Electricity and Galvanism, in their Physiological and Therapeutical relations, by Dr. Golding Bird,—and the Croonian lectures on Diseases of the Stomach, by Dr. Budd, which are brought to a conclusion in the present number. In this place, too, we must not omit to notice the valuable course of lectures on Nutrition, Hypertrophy and Atrophy, delivered at the Royal College of Surgeons, by Professor Paget, and now in course of publication.

In this volume, the publication of two courses of lectures has been commenced,—the one on Surgery, by Mr. Bransby Cooper; and the other on the Diseases of Infancy and Childhood, by Dr. West. These will be regularly continued on alternate weeks until their completion. We forbear offering those laudatory remarks which the practical utility of these various lectures might fairly justify; we would rather leave this part of the subject to

the judgment of our readers, who, we are assured, will not fail to profit by the large amount of professional information thus afforded to them in a most authentic form.

As an indication of the continuance of that favourable support which this journal has hitherto received from an influential portion of the profession, we may here state that in addition to the regular courses of Mr. Bransby Cooper, Dr. West, and Mr. Tomes, we can promise, for publication in the next volume, courses of lectures by Dr. Copland, "*On Morbid Sympathies, or those states of Disorder which most frequently present themselves to the Physician*;" by Dr. G. E. Day, "*On Chemistry and the Microscope, in relation to Practical Medicine*;" by Dr. Robert Lee, "*On the Diseases of Women*;" and by Dr. G. O. Rees, "*On Albuminuria and Diabetes*."

We shall not here attempt to give an analysis of the papers which have been inserted under the head of *Original Communications*; it may be sufficient to state, that they justly maintain the character of the MEDICAL GAZETTE as a Journal of Practical Medicine. If the contributions have not always appeared so early as the authors had anticipated, we can only assign as a reason our desire to act fairly by all, and to give precedence to those which were first received. It would be easy to find room, by diminishing the space assigned to other departments of the journal; but it is our desire—and we believe this corresponds to the wishes of our readers—that the pages of the journal should have, weekly, that variety in their contents which has uniformly characterised the new series.

Of the *Review* department we shall only remark, that not a number has been published which has not contained one or more notices of professional works; and, in the volume just

completed, no less than seventy have passed under review. It is scarcely necessary for us to state, as the notices will establish the fact, that a judgment has been pronounced upon these works according to their professional merits, and wholly irrespective of authors and publishers. The confidence of the profession in those who conduct this department of the journal, is sufficiently evinced by the long lists of books received for review, which, conformably to the practice of other medical journals, are periodically inserted in our pages.

The *Proceedings of Societies* occupy the usual portion of our space. Our readers will observe that these valuable reports are published as soon after the respective meetings as possible,—a condition absolutely essential to their utility. In this department, will be found many important additions to medical science.

Of the *Medical Intelligence*, we shall only remark, that we think we have not failed to bring weekly before our readers all matters of any interest to the profession, whether occurring in Great Britain or in any part of the civilised world. We have said nothing of our *Selections* from British and Continental journals. The fact is, we find that our contemporaries, British and Foreign, are in the habit of borrowing from us a larger amount of medical information than we take from them—not that we undervalue this method of adding to the contents of a journal, but we do not feel justified in postponing original for borrowed matter. Of the 1142 pages which this volume contains, it will be found, that, comparatively speaking, a small number are occupied by extracts from contemporary publications; and these extracts, selected for their practical interest, are chiefly derived from French and German journals which are not likely to fall into the hands of our readers.

We shall conclude these remarks by thanking our friends and contributors for having enabled us to make this satisfactory statement of the present state and prospects of the LONDON MEDICAL GAZETTE. They may be assured that we shall spare no effort to maintain its character and extend its utility as a professional publication.

Reviews.

Der Speichel in physiologischer, diagnostischer, und therapeutischer Beziehung, &c. Nach SAMUEL WRIGHT. Wien, 1844.

Het Speeksel uit een Physiologisch, Diagnostisch en Therapeutisch Oogpunt. Beschouwd door S. WRIGHT and Von Dr. S. ECKSTEIN en F. RIENDERHOFF. Amersfoort.

It is highly creditable to an indefatigable labourer in one department of animal chemistry, to find that the results of his long and laborious investigations have been so well appreciated as to lead to the speedy translation of his papers into several European languages. Our readers are doubtless aware that Dr. Wright's contributions on the saliva, occupying nineteen elaborate essays, were published in the *Lancet* during the years 1842-44. We have now before us the German and Dutch translations, which appear to be well executed, and well calculated to convey in a concise form, a knowledge of the new and interesting facts so industriously accumulated by the author. From the preface, translated into German, we learn that Dr. Wright was occupied for a period of seven years in making these investigations on the healthy and morbid conditions of the salivary secretion. During this period, many gallons of saliva were submitted to chemical analysis, and the cases from which the facts are taken exceeded five thousand!

It is unnecessary for us to go into a close analysis of the translated works. The volume in German is divided into two sections, embracing the *physiology* and *pathology* of the salivary secretion. In the first, which occupies about one-fourth, the chemical properties and physiological uses of the saliva are

described. In the second, nineteen varieties of morbid saliva are enumerated, with the processes for the analysis of each, and the pathological inferences to be deduced from the observations.

We have no doubt that the circulation of these treatises in foreign countries will add to the reputation of Dr. Wright, whose researches are now universally quoted, and deservedly regarded as comprising the best account yet published of this important secretion.

Cosmos: Sketch of a Physical Description of the Universe. By A. VON HUMBOLDT. Translated by Lieut-Col. SABINE. Vol. 1, 2d Edition. London: Longmans, and Murray. 1847.

WE are not surprised that we are called upon to announce the appearance of a second edition of the first volume of this excellent work, so soon after the publication of the first edition, and before the second volume has issued from the press. The present edition does not, so far as we can perceive, contain any additional matter; but there is one great improvement which we must not omit to notice—namely, the addition of a very full index. Considering the vast variety of interesting subjects treated by the author, an index had become indispensable for reference. We have given in our last volume* a general notice of the contents of the work, and to this we must refer our readers. We hope soon to have before us the second volume; although we regret to find that the learned author is at present labouring under a severe illness.

Correspondence.

CORRESPONDENCE BETWEEN PROF. SYME AND MR. CESAR HAWKINS ON THE TREATMENT OF DISEASE OF THE TESTIS.

[No. 1.—Letter from Professor SYME.]

Edinburgh, 3d June, 1847.

Dear sir,—My attention has been directed to the following passage in a lecture purporting to have been delivered by you, and published in the LONDON MEDICAL GAZETTE of Friday last†:—"Nor need you, as was

* Vol. xxxviii. p. 978.

† May 26th, p. 944

recommended many years ago, cut off the protrusion, and, bringing the edges of the scrotum together, endeavour to get union by the first intention. You will generally fail, and run the additional risk of having matter confined by union of the skin without union below. I was amused lately by seeing this practice running the round of the journals as an improvement recently introduced in Edinburgh by Mr. Syme; whereas you may see it in Sir Astley Cooper's work on the Diseases of the Testis, which has been so long in every body's hands."

As the object of my "improvement" was not to "cut off" the fungus, but to restore the texture composing it to a healthy state by retracing the steps of morbid action, I beg you will have the goodness to inform me if you have been correctly reported, and if so, upon what ground the statement in question was made.

I enclose a copy of my paper upon the subject, and remain,

Dear sir,

Yours very truly,

(Signed) JAMES SYME.

Cæsar Hawkins, Esq.

[No. 2—Reply of Mr. CÆSAR HAWKINS.]
26, Grosvenor Street, Grosvenor Square,
June 8, 1847.

Dear sir,—Till I received the copy, which you have kindly sent me, of a paper published by you in the Edinburgh Journal, I was not aware that you had proposed any modification of Sir Astley Cooper's method of procuring union by the first intention, after excision of the edges of the skin and of the projecting fungus, in cases of chronic inflammation of the testis; it is therefore with much regret that I find I have inadvertently employed an expression in a clinical lecture recently published in the MEDICAL GAZETTE, which might, contrary to my intention, appear applicable to you, and at which (though you do not say so) you might, on this supposition, not unreasonably take umbrage—an expression, however, which I would on no account have employed with reference to yourself, or any member of the profession.

In saying that "I was amused lately by seeing this practice running the round of the journals as an improvement recently introduced in Edinburgh by Mr. Syme, whereas you may see it in Sir Astley Cooper's work on Diseases of the Testis, which is in every body's hands," I meant the observation to apply solely to the printers or conductors of the several journals, who put in the table of contents on the covers, and on the headings of the pages, the words—"New operation for the cure of fungus testis;" and who, I imagined, had mistaken an allusion by you, in a clinical lecture, to Sir Astley Cooper's

practice, for a new proposal of your own which you had not intended to call it.

It is unnecessary for me to enter into the comparative merits of the two methods, since I must beg to retain the opinion I expressed in my lecture, that no operation is necessary in such cases; my object being only to assure you, that amusement is not the feeling which I expect to derive from any surgical proposal of yours.

I am, dear sir,

Faithfully yours,

(Signed) CÆSAR H. HAWKINS.

James Syme, Esq.

A LETTER TO THE FELLOWS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

GENTLEMEN,—A recent circular of the College will have apprised you of my relation to the Council of that institution. The circumstances which have afforded me this very disagreeable notoriety are peculiar; and, inasmuch as they point to my possible exclusion from the Council for ever, I trust I may stand acquitted of indelicacy if I intrude my name once more on your attention. My tale is fortunately short, and is not without its lesson to succeeding aspirants to the honour of a seat at the College Council board.

At the nomination of 1846 I was informed that my name would be announced for election. It was so announced. It passed, however, unnoticed, and my junior was elected. I owe my non-election to a morbid opinion I entertain, that every office of public trust, like that to which I thought it not improbable I was about to be appointed, should come by right, and not by favour. Having no personal inclination to gratify, which might warrant a personal obligation, I felt that it would derogate from my honour, and from my independence, if I made a private application, even to a friend, the path to success. However willing I may have felt to undertake the duties and responsibilities of the Council, I did not estimate the value of my services so highly as to warrant my adoption of indirect means in obtaining a seat at its board. I consider a personal canvass, or an application in any form, to be indirect means, and I declined to adopt them. My present opinions, and my future intentions, notwithstanding the experience of the past, remain to this hour unchanged; and with such opinions, be they right or wrong, I will not compromise myself so far as to accept an office which demands the advocacy of public and often contending interests, by the instrumentality of private favour. I do not conceal the fact of my disappointment in the result, but I have never reproached myself for my failure.

Many of my personal and intimate friends

were present on the occasion in question. That they reproached themselves for my exclusion, I am quite content to know. One and all endeavoured to acquit themselves by the assurance that "I had no one to blame but myself;" but, as I do not blame them, I do not see why the charge of failure should necessarily recoil on myself. It is a source of great satisfaction to me to acknowledge that any regret I felt at my possibly temporary exclusion, was more than compensated by the kind interest expressed to me personally by the almost entire body of the Council, at an event which was apparently the result of accident merely.

On the 1st of July a vacancy will be declared, by the necessary retirement of three gentlemen from the Council board. Let it not be supposed that I aspire to fill either of the three offices thus vacated, notwithstanding the announcement of my name in the College circular as eligible for the office. These three gentlemen, with high professional rank, and the experience of two years of the duties of the office, will be re-elected, almost as a matter of course. Should, however, either of the three fail of re-election, my name will be proposed, and, if unsuccessfully, I am informed, that, in obedience to the requisition of the College charter, I shall be excluded from the Council for ever.

This negative position I am not ambitious to fill. While I would shrink from obtruding myself either on the Council or on the notice of the Fellows at large, I do not pretend indifference to the honour of a seat at the Council board of the College of Surgeons of England.—I am, gentlemen,

Your most obedient servant,
F. C. SKEY.

Grosvenor Street,
June 21, 1847.

Medical Intelligence.

THE ROYAL FREE HOSPITAL.

THE 19th anniversary festival of this hospital was held last week at the London Tavern, and was numerously and respectably attended. Mr. Benjamin Bond Cabbell filled the chair. From the report it appears that several very judicious alterations have been made in the management of the hospital, with a view to increased economy and efficiency. During the past year the amount of donations has decreased, but the annual subscriptions have suffered only a trifling diminution; and while £500 of the debt which oppresses the charity has been paid off, the number of in-door patients has not been greatly reduced, and that of out-door patients exhibits an increase of 25 per cent. on the previous year. The medical report for 1846 states that 35,507 persons have participated in the

benefits of the institution, making a total of 231,725 patients relieved since its foundation in February, 1828. The receipts during the past year have been £4,632. 8s. 6d.; the expenses £5,017. 2s.; and the amount of debt out-standing, £5,246. Subscriptions to the extent of £1,100 were announced in the course of the evening.

WITHDRAWAL OF THE MEDICAL REGISTRATION BILL.

THE Medical Registration Bill has been withdrawn. We have purposely refrained from making any comments on this measure, from the conviction that with a Parliament about to be dissolved, the press of important public business, and the declared opposition of influential medical corporations, there was not the slightest chance of its passing into a law during the present session. This anticipation has been now realized. At the proper season, should this Bill be laid before another House of Commons, we shall be prepared to show what parts of the measure are in our judgment beneficial, and what are likely to be injurious to the profession.

CLIMATE OF AFRICA.

MR. W. F. DANIELL, the African traveller, and deservedly well known by his valuable contributions to this journal in 1845, on the Medical Topography, Climate, and Diseases of the Bights of Benin and Biafra, has just returned to England in a very precarious state of health.

BARON DE HUMBOLDT.

It is with regret we learn by the latest intelligence received from Berlin, that Baron Alexander de Humboldt, the celebrated traveller, has had a severe attack of illness. He is now going on favourably.

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted Members, on Friday, June 11.—E. Alsop—J. S. Berryman—J. H. Cook—S. O. Habershon—J. L. Oldham—C. Pates—T. C. W. Cooke—P. Eade—V. de Meric—J. Wilson—S. Brady.

OBITUARY.

DR. HARRIS DUNSFORD.

ON the 17th instant, at his house, 44, Upper Seymour Street, Portman Square, after a short illness, Harris Dunsford, Esq., M.D. aged 39. Dr. Dunsford received the rudiments of his medical education at Honiton, in Devonshire. In 1829-30, he was an industrious student at St. Bartholomew's Hospital, and he obtained his diploma from the Royal College of Surgeons in the latter year. In 1833, he received the degree of M.D. from the University of Freiburg. During his residence at this city, as well as at Lausanne in Switzerland, he first imbibed

those views of homœopathy, for carrying out which he subsequently abandoned the regular practice of his profession. During the last ten years, he has been known in the metropolis only as a homœopathic practitioner. Many of his friends deeply regretted this conversion of a well-educated professional man to the absurd doctrines propagated by Hahnemann; of these Dr. Dunsford was a most strenuous supporter, not merely in practice, but in various publications which issued from his pen. But *de mortuis nil nisi bonum*:—he was formerly one of the profession, and as such, his memory deserves this passing notice.

H. COATES, ESQ.

Lately, of dysentery, at Pernambuco, having landed at that port three days previously from H. M. packet Swift, Henry Coates, Esq., during nearly thirty years an eminent medical practitioner in Rio de Janeiro.

DR. LYNCH.

On the 23d inst., suddenly, Dr. Lynch, of Farrington Street, in the 38th year of his age. Dr. Lynch was well known as a strong advocate of sanitary reform.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer	29.76
" " Thermometer	54.4
Self-registering do. max. 89° min. 28°	
" in the Thames water — 68° 8' — 64° 5'	
a From 12 observations daily. b Sun.	

RAIN, in inches, .43: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 4.5° below the mean of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, June 12.

BIRTHS.	DEATHS.	Av. of 5 Spr.
Males.... 582	Males.... 440	Males.... 468
Females.. 595	Females.. 400	Females.. 446
1177	840	914

DEATHS IN DIFFERENT DISTRICTS.

(34 in number;—Registrars' Districts, 129.
Population, in 1841, 1,915,104.)

West—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326)	116
North—St. Marylebone; St. Pancras; Islington; Hackney	181
Central—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London	129
East—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar	188
South—St. Saviour; St. Olive; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich	226
Total	840

CAUSES OF DEATH.

		Spring av.
ALL CAUSES	840	914
SPECIFIED CAUSES	839	909
1. Zymotic (or Epidemic, Endemic, Contagious) Diseases ..	157	166
<i>Sporadic Diseases, viz.—</i>		
2. Dropsy, Cancer, &c. of uncertain seat	87	90
3. Brain, Spinal Marrow, Nerves, and Senses	137	158
4. Lungs and other Organs of Respiration	262	275
5. Heart and Bloodvessels	37	29
6. Stomach, Liver, and other Organs of Digestion	61	70
7. Diseases of the Kidneys, &c.	12	8
8. Childbirth, Diseases of the Uterus, &c.	8	10
9. Rheumatism, Diseases of the Bones, Joints, &c.	10	8
10. Skin, Cellular Tissue, &c.	5	2
11. Old Age	41	57
12. Violence, Privation, Cold, and Intemperance	23	26

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	12	Convulsion	43
Measles	32	Bronchitis	43
Scarlatina	12	Pneumonia	42
Whooping-cough ..	17	Phthisis	154
Typhus	44	Dis. of Lungs, &c.	5
Dropsy	8	Teething	6
Sudden deaths ..	9	Dis. Stomach, &c.	3
		Dis. of Liver, &c.	13
Hydrocephalus ..	31	Childbirth	3
Apoplexy	20	Dis. of Uterus, &c.	5
Paralysis	14		

REMARKS.—The total number of deaths was 74 below the weekly spring average.

NOTICES TO CORRESPONDENTS.

The space occupied by the Index has compelled us to postpone several lectures and communications which are in type. They will have early insertion in the new volume.

G. H. S., Stevenage, Herts.—It is not in our power to answer the question put to us by our correspondent. We do not find the name of the person alluded to in the London Medical Directory for 1847; and therefore we presume that he belongs to the large and thriving class of sham-doctors. A good Medical Registration Bill will be clearly beneficial in separating this class from licensed practitioners.

Medicus, No. 1.—We thought that advertisements like that forwarded to us by Medicus had been confined to the lowest class of French periodicals. The person advertising himself as a "married medical gentleman" (!) is most probably unconnected with the profession. The promised "honourable secrecy" is doubtless well paid for.

F. C. M. will find by the preceding notice that an answer to his inquiry has been already given.

The great length of the two lectures inserted in this week's number, has so restricted our space for original communications, that we were compelled either to divide or postpone Dr. Wood's paper on Puerperal Convulsions. We have preferred the latter alternative.

If Mr. W. F. Barlow will forward to us the paper to which he refers, we shall be better able to give an opinion respecting its insertion.

The letters of Dr. Holbrook, Mr. W. Wilkinson, and Medicus, No. 2, next week.

M. A. M.—The diploma of the College confers no legal right to practise midwifery: hence no action could only be brought for work and labour done.

Received.—Mr. Macaulay.—A Constant Reader.

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